

# **COMPONENT CATALOGUE**

# Content

Manual —

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# Manual

## 1. Task:

The components catalogue is a list of construction components of the built environment. It is similar to a passport for each documented building. Each component can be divided into its single elements and the materials used for these elements. The catalogue takes into account on the one hand the material value and on the other hand the critical resources of the human capital put into the individual components.

## 2. Goals:

\* *Recognize built-in materials as resources by giving identity*

The idea is to give an identity to the elements and materials used for the construction and interior fitting. Therefore components are seen as a resource rather than waste.

\* *Calculating the value of an component through labour effort*

Each component is based on a varying series of different work steps. The components are an expression of a collection of different processes.

## 2. Regulations for building documentation

1. cover	1.1 photography: <i>locating the building in the urban fabric</i> 1.2 title: <i>numbering of the buildings</i>
2. profile sheet	2.1 building specification: general information about the building 2.2 construction: general information about construction 2.3 use: information about original use and conversion during time 2.4 components: list of components, visible components during inspection 2.4.1 movables: <i>like furniture</i> 2.4.2 interior fittings 2.4.3 facade 2.4.* <i>in exceptions the list can be extended</i>
3. General plans	3.1 groundfloor 1-500 3.2 regular floor 1-500 3.3 section 1-500
4. components	4.1 plan 1-25 4.2 section 1-25 4.3 view 1-25 4.4 axonometric view with main measurements

## 3. Regulation for value calculation

A table to calculate the value of a component, taking the following criteria of working steps into account. The complexity of a component, calculated by the number of elements and materials, increases its value due to more know-how and effort behind it.

1. material extraction	1.1 mining of raw materials 1.2 processing into composit material
2. construction elements	2.1 design of construction elements 2.2 production of construction elements
3. component	3.1 design of a component 3.2 Integrate component into a design
4. craftwork	4.1 assembling the component 4.2 installation of the component



# BAU 125

## building specification:

start of construction	1962
end of construction	1967
height	82m (from basement)
length	67m
width	21m
floor area	1407m2
building volume	115374m3
time in use	53 years

## construction:

construction	reinforced concrete skeleton
ceiling	
supports	steel core supports up to the 7th floor
facade	curtain wall facade
base	continuous reinforced concrete slab
axle dimensions	3.3m
storey height	4.0m
clear room height	3.8m (up to suspended ventilating ceiling)

**use:** The 75m high laboratory building for biological research has maintained its function until the end. In addition to the regular laboratories, animal tests have also been carried out in the building. The animals were kept in the northern service building.

basement		ground floor		regular floors		additions	
service rooms	3	entrance hall	1	laboratories	147	animal laboratories	32
air-raid shelter	1	auditorium	2	cubicles attached to each lab.	210	animal rooms (SB)	28
feed distribution	1			office rooms	83	secondary rooms (SB)	32
crematory	1			archive rooms	26	climate rooms	22

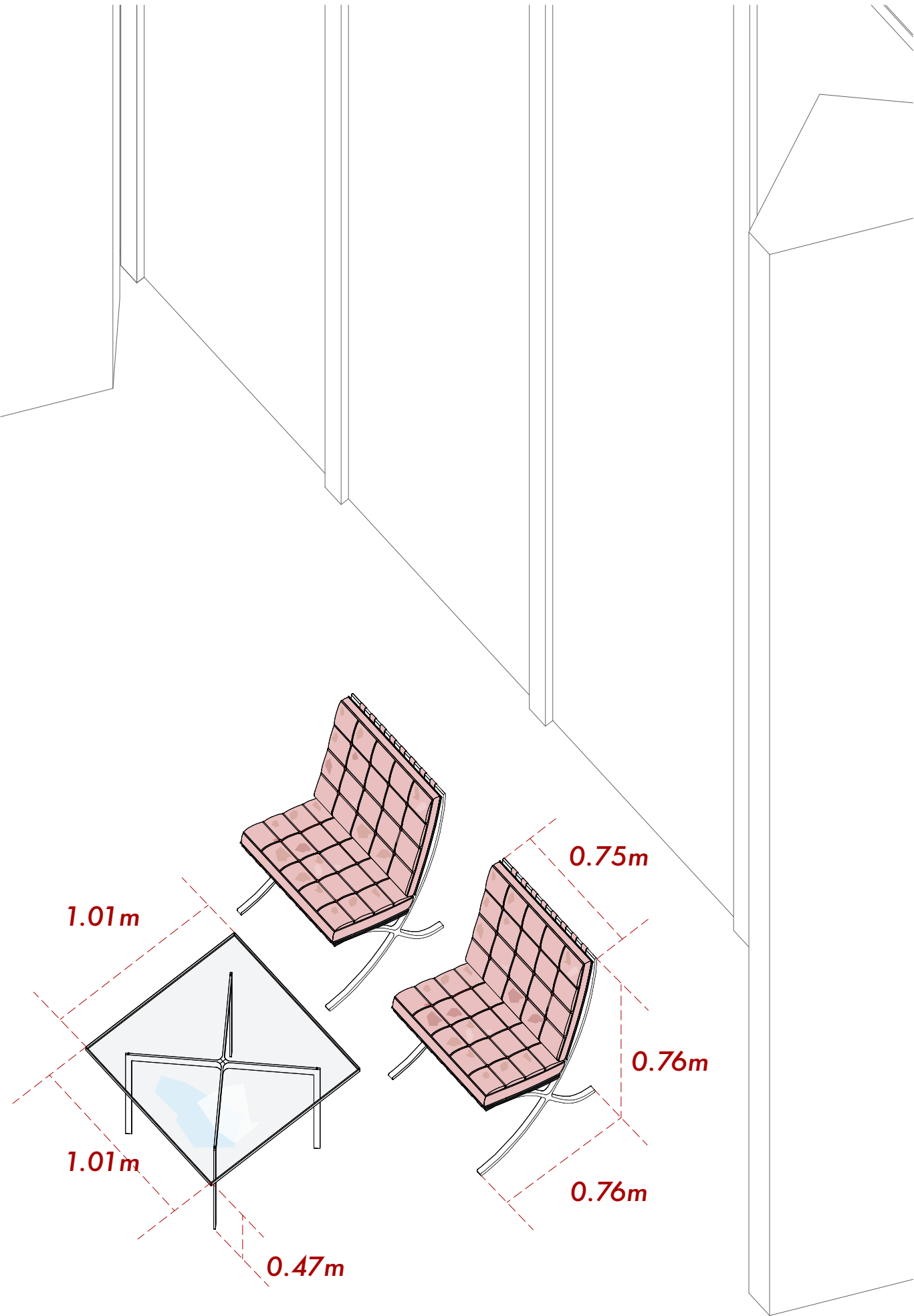
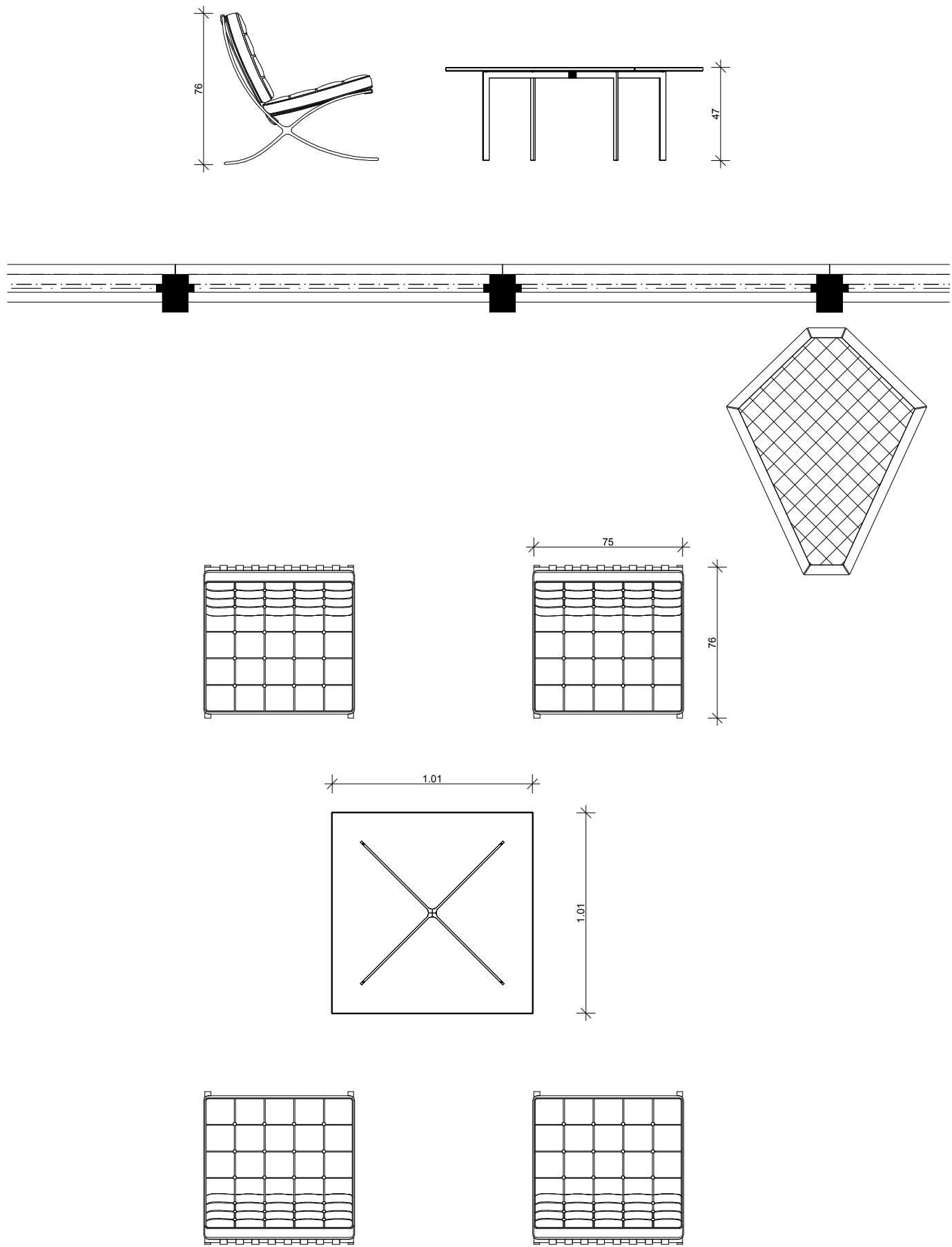
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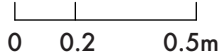
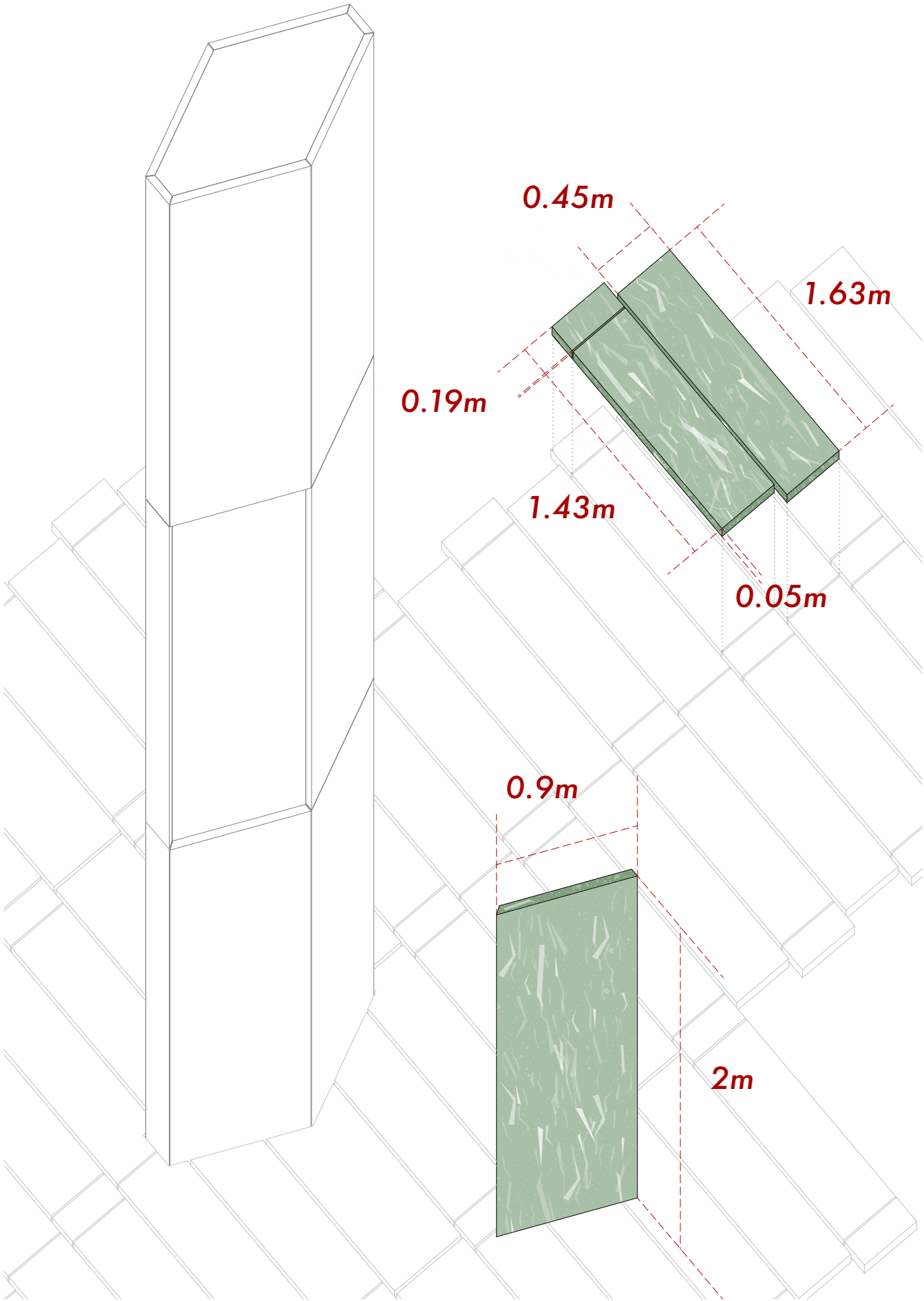
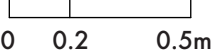
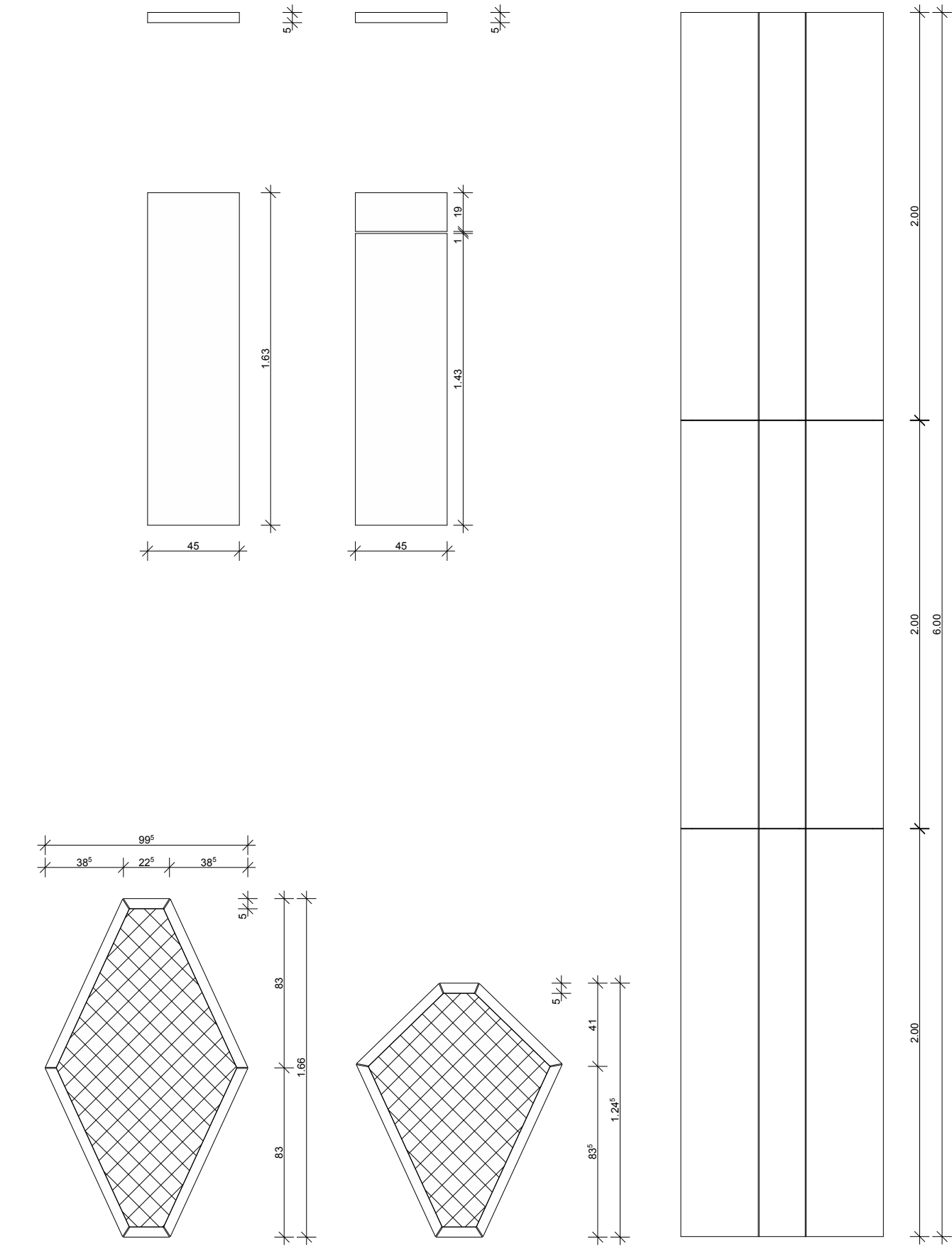
° Σ	component	qty.	material	quantity per component		total quantity	
				surface	volume	surface	volume
b125.1	mies chair	17	leather and chrome steel	/	0.435m3	/	7.395m3
b125.2	mies table	3	glass and chrome steel	/	0.48m3	/	1.44m3
b125.3	flooring (column pan- neling)	475	serpentine stone	3.5m2	0.175m3	1'657m2	82.85m3
b125.4	wall panelling	413	travertine stone	1.1m2	0.055m3	454.8m2	22.74m3
b125.5	wall panelling	212	inclined wooden boards	1.5m2	0.12m3	319.2m2	25.54m3
b125.6	curtain wall facade	1428	colored normal glass framed with aluminium profiles	6.6m2	1.32m3	10'306.3m3	2'061.2m3
b125.7	blind facade	578	chamfered aluminium elements	4.16m2	0.1664m3	2'400m2	91,2m3

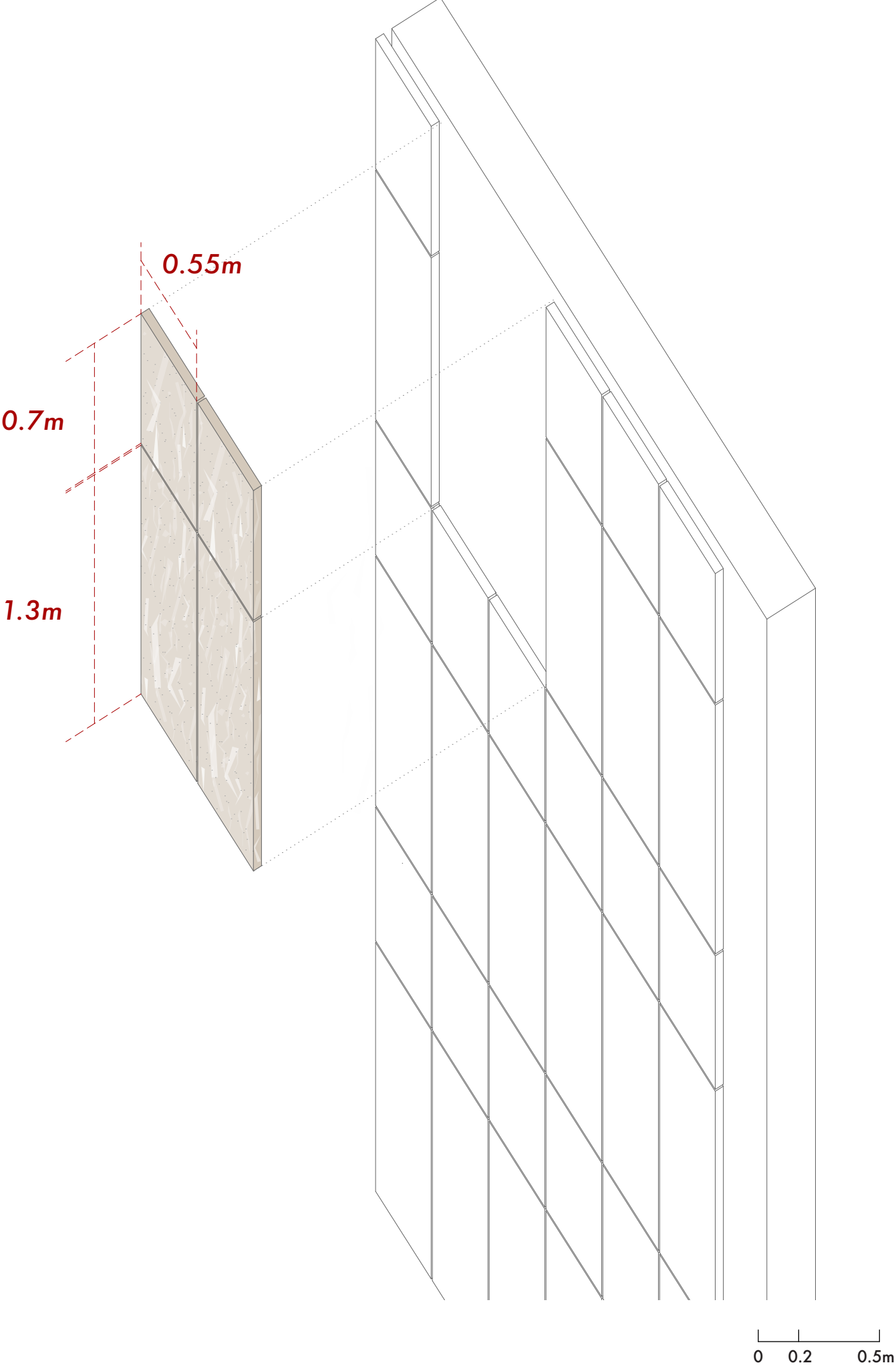
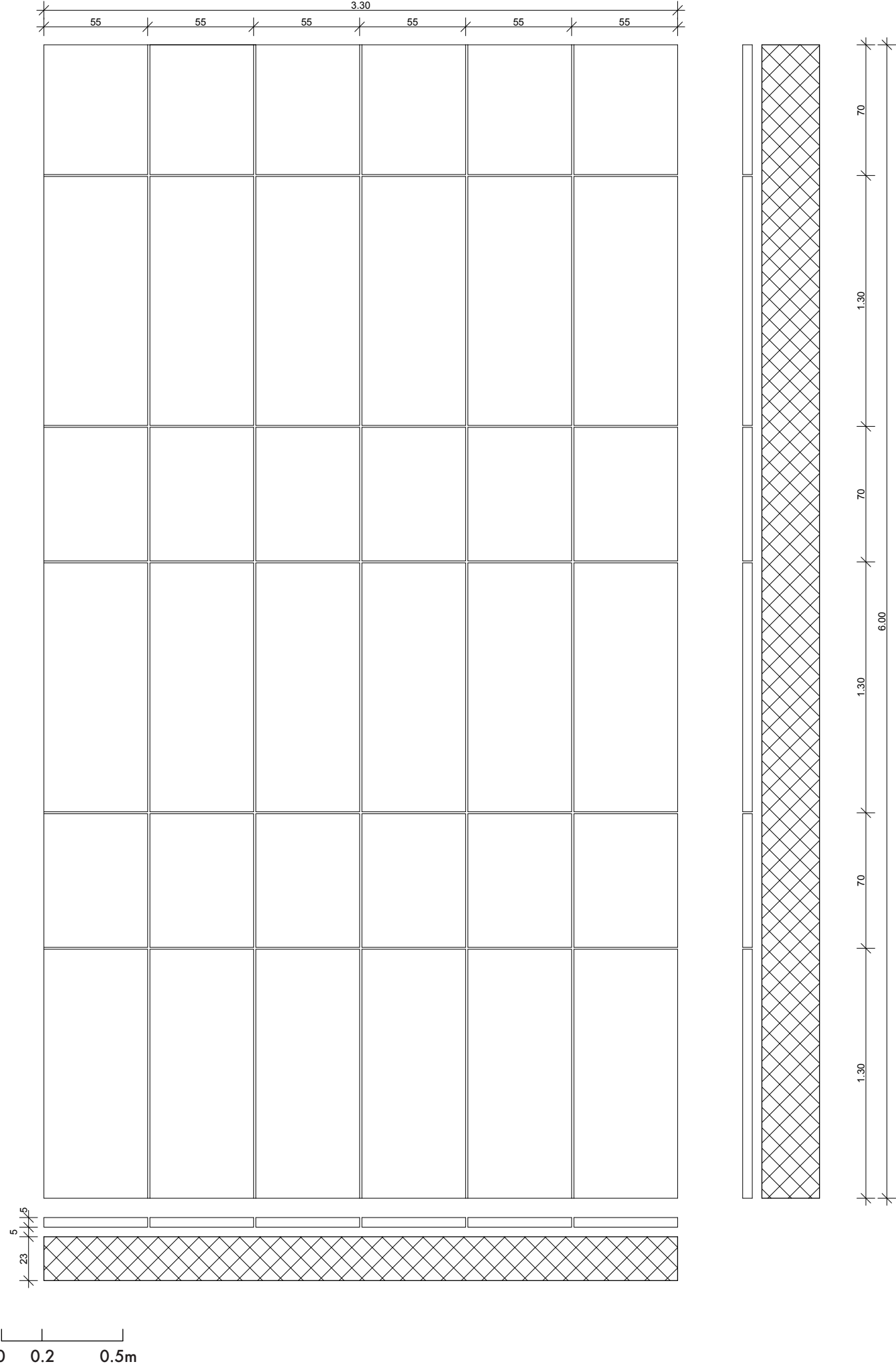
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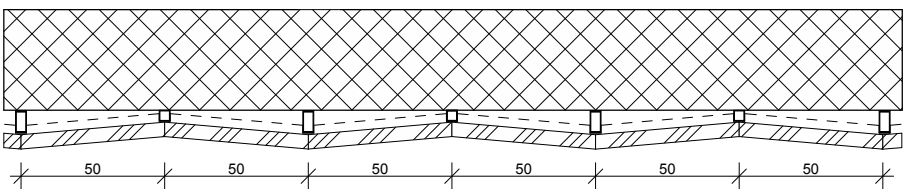
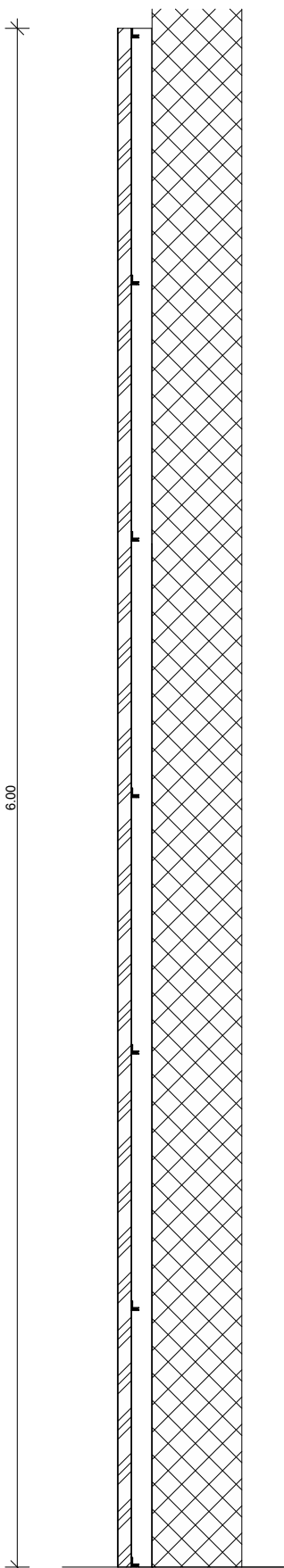
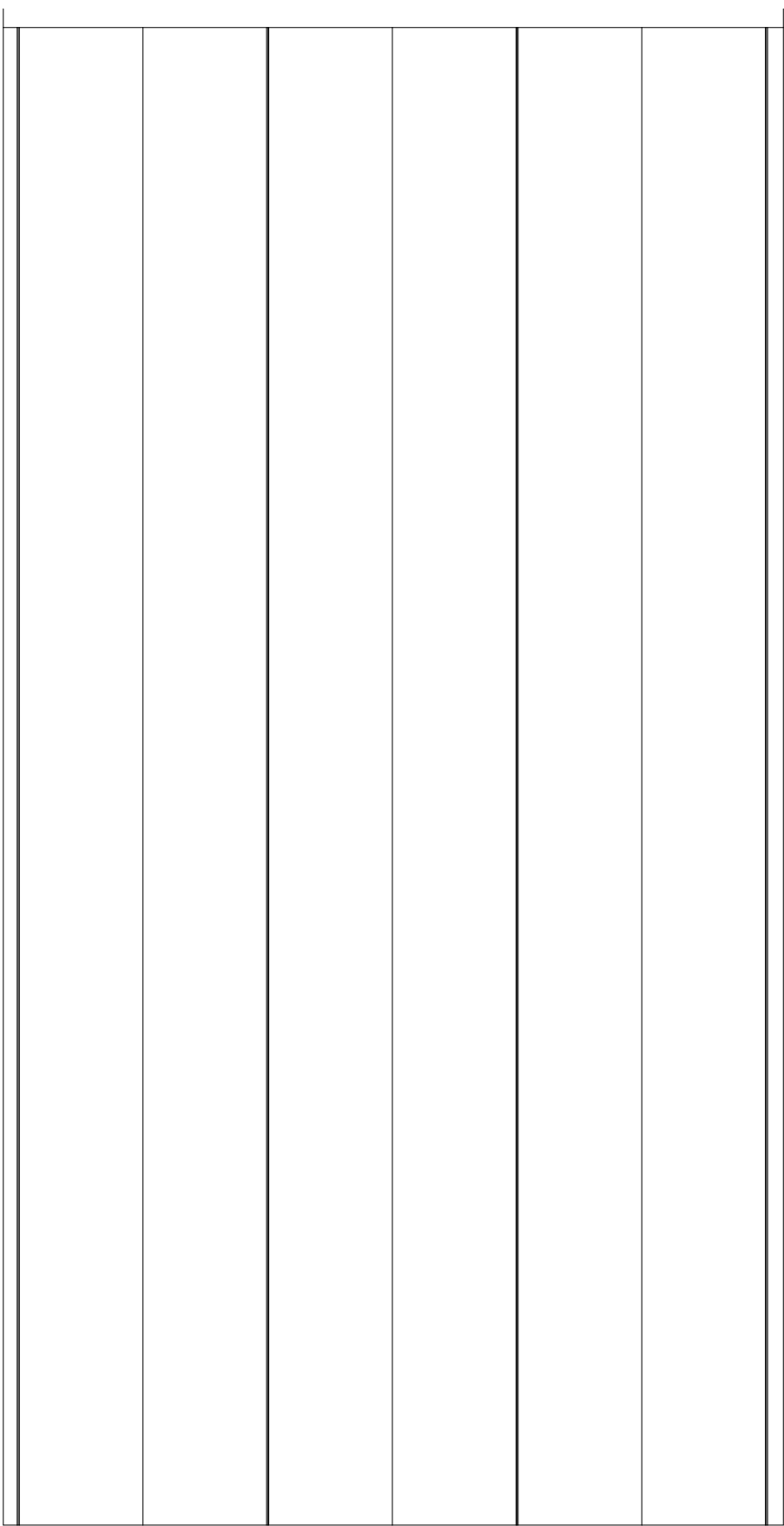
° Σ	component	production process (up to 3 •)	elements	production process (up to 4 •)	materials		value points
					material quality	and abrasion (up to 6 •)	
			• design of a component • assembling the component • installation of the component		• mining of raw materials • processing into composit material • design of elements • production of elements	• low • • med. • • • high	• high • • med. • • • low
b125.1	mies chair (production after 1950)	• •	1. upholstery 2. cushion 3. cushion support 4. frame	• • • • • • • • •	1. cowhide 2. urethane foam 3. cowhide 4. polished chrome (one piece)	• • • • • • • • • •	• • • • • •
b125.2	mies table	• •	1. top 2. base	• • • • • •	1. thick clear glass 2. polished chrome	• • • • •	• • • • •
b125.3	flooring + column panelling	• •	1. flooring	• •	1. serpentine stone	• • •	• • •
b125.4	wall panelling	• •	1. anchoring 2. pannels	• • • • • •	1. metal 2. travertine stone (wall)	• • • • • •	• • • • • •
b125.5	wall panelling	• •	1. substructure 2. pannels	• • • • • •	1. aluminium profiles 2. inclined wooden boards	• • • • •	• • • • •
b125.6	curtain wall facade with integrated roller slat blinds and dark blinds	• • •	1. vertical profiles 2. horizontal profiles 3. window frame 4. window pane 5. glass frame 6. color glass 7. roller blind guide 8. roller blind 9. dark blind guide 10. dark blind	• •	1. aluminium 2. aluminium 3. aluminium 4. insulating laminated glass 5. aluminium 6. colored glass 7. aluminium 8. powder-coated aluminium 9. aluminium 10. awning fabric	• •	• • • • • • • • • •
b125.7	blind facade	• •	1. substructure 2. pannels	• • • • • • • •	1. aluminium profiles 2. aluminium elements	• • • • •	• •



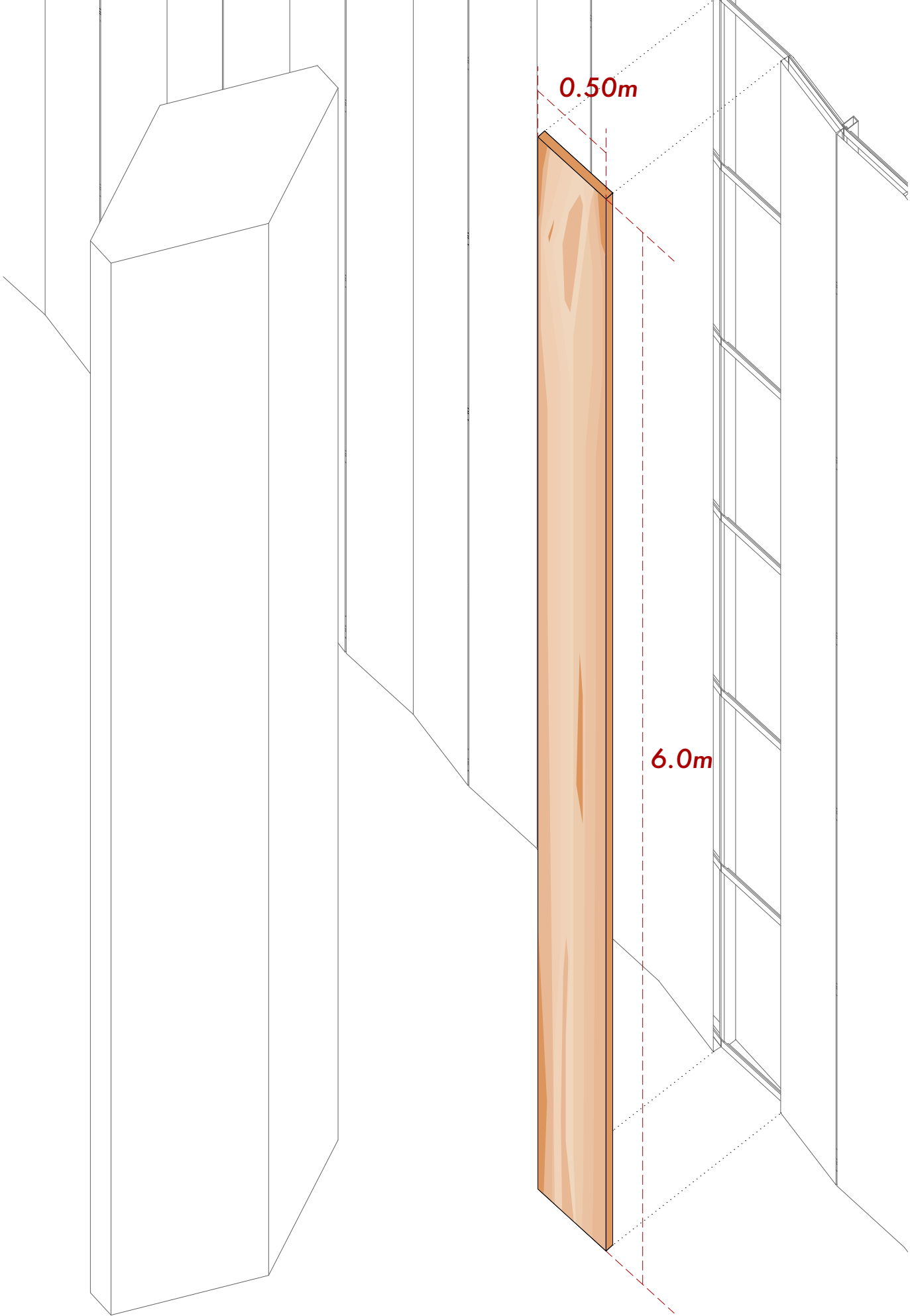




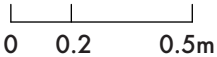
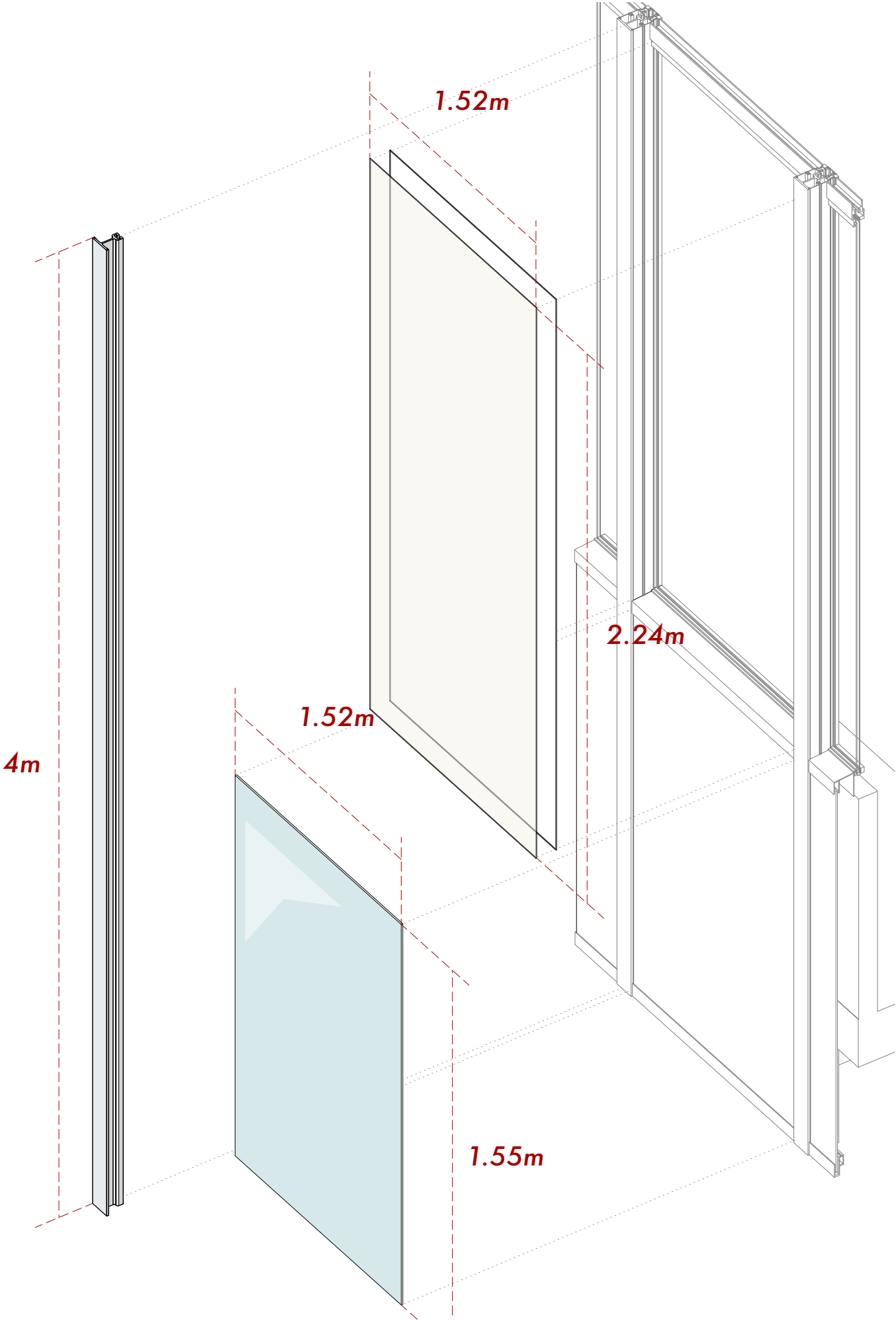
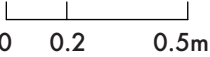
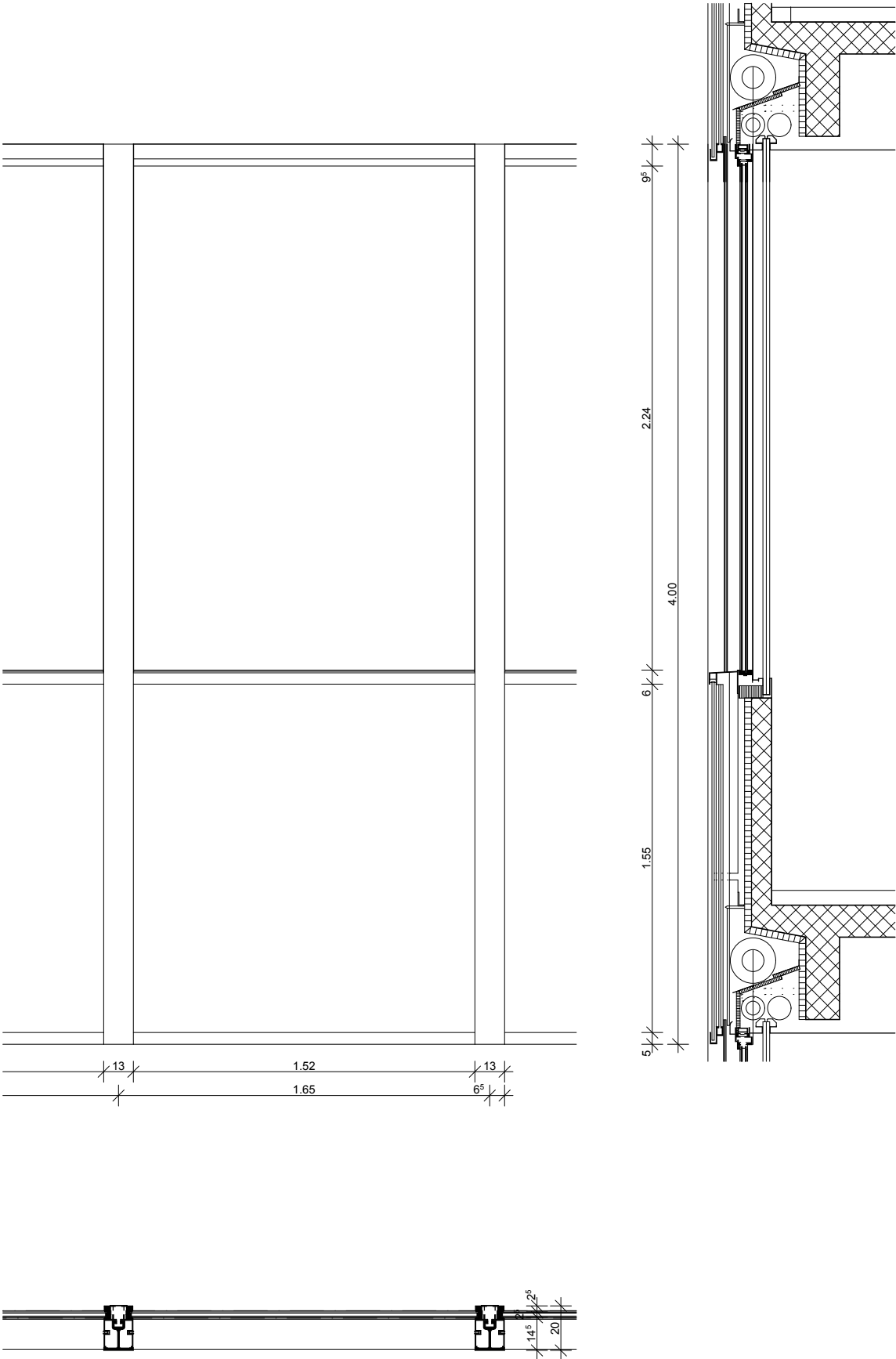




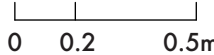
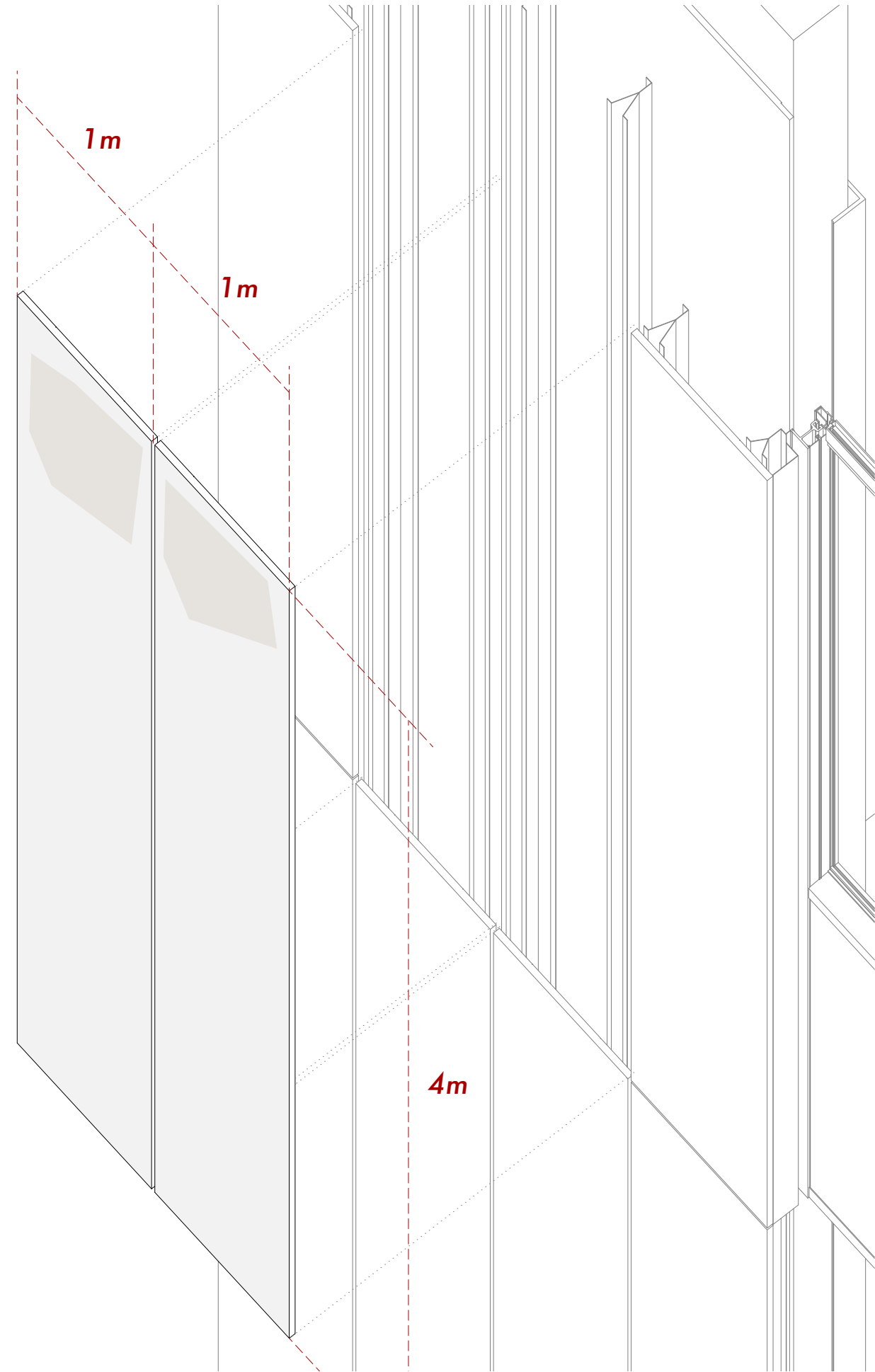
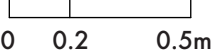
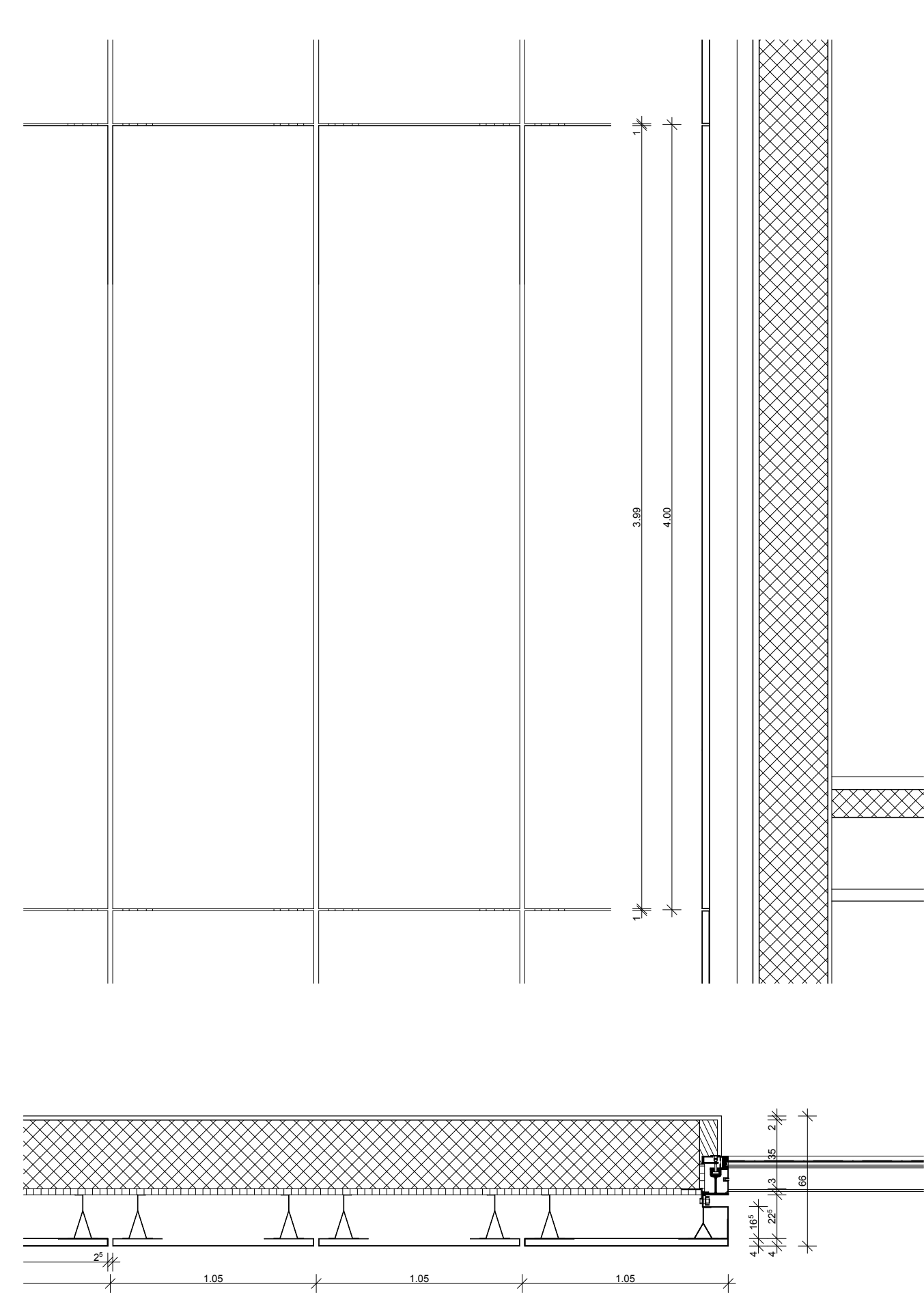
0 0.2 0.5m



0 0.2 0.5m









# BAU 127

## building specification:

start of construction	1971
end of construction	1973
basement	1
ground floor	1
upper floors	6
height	36.75m (from basement)
length	57m
width	44m
floor area	2'508m2
building volume	88'640m3
time in use	47

## construction:

construction	reinforced concrete skeleton
ceiling	solid concrete ceiling
facade supports	columns according to axle dimensions
facade	curtain wall facade
base	concrete
axle dimensions	5.1m
storey height	4.12m
clear room height	3.23 (up to suspended ventilating ceiling)

**use:** The central use of the analysis building was the development of dyes, chemicals, agricultural chemicals and pharmaceuticals as well as the control of the raw material itself. Its use was never changed.

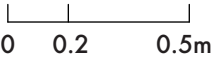
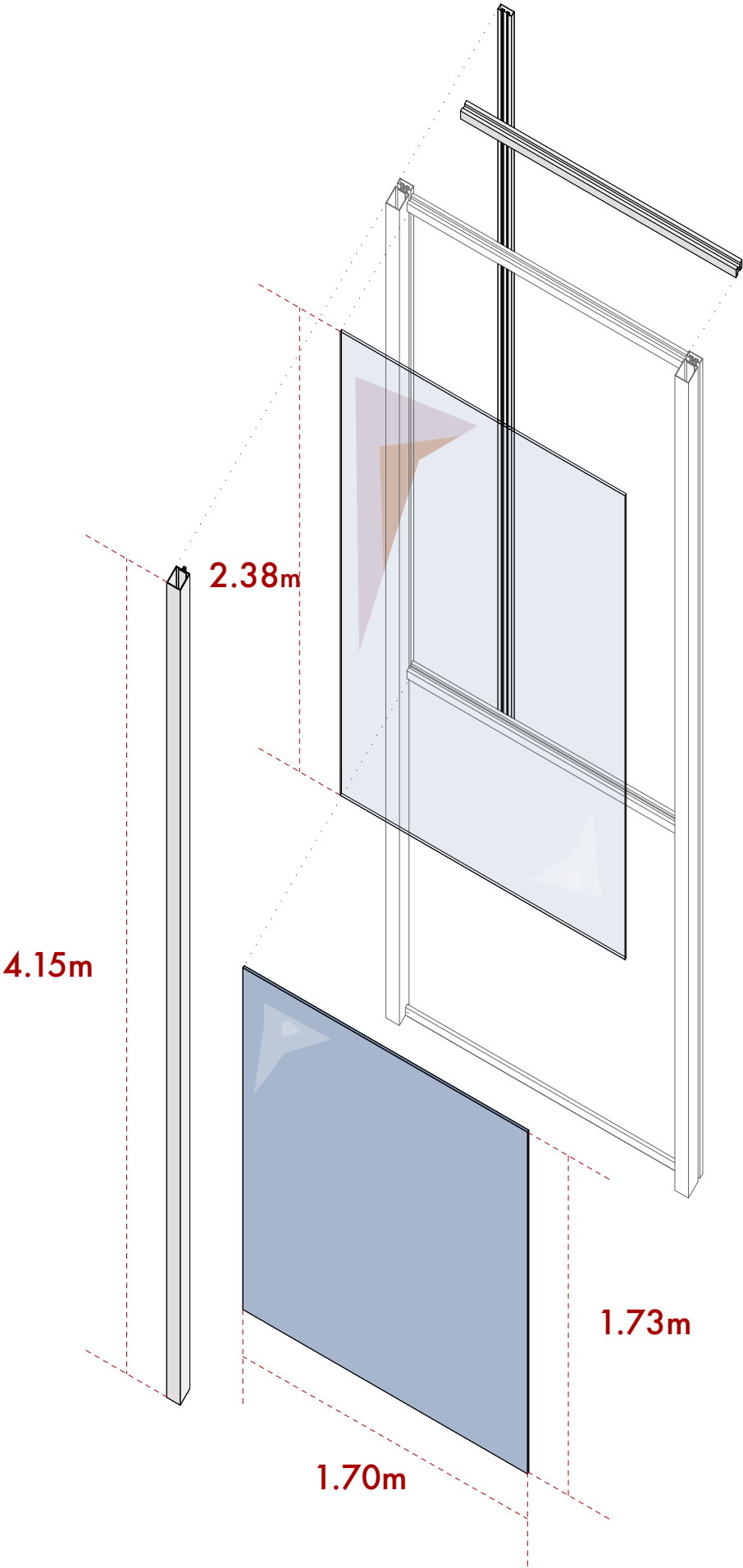
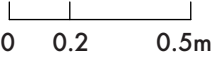
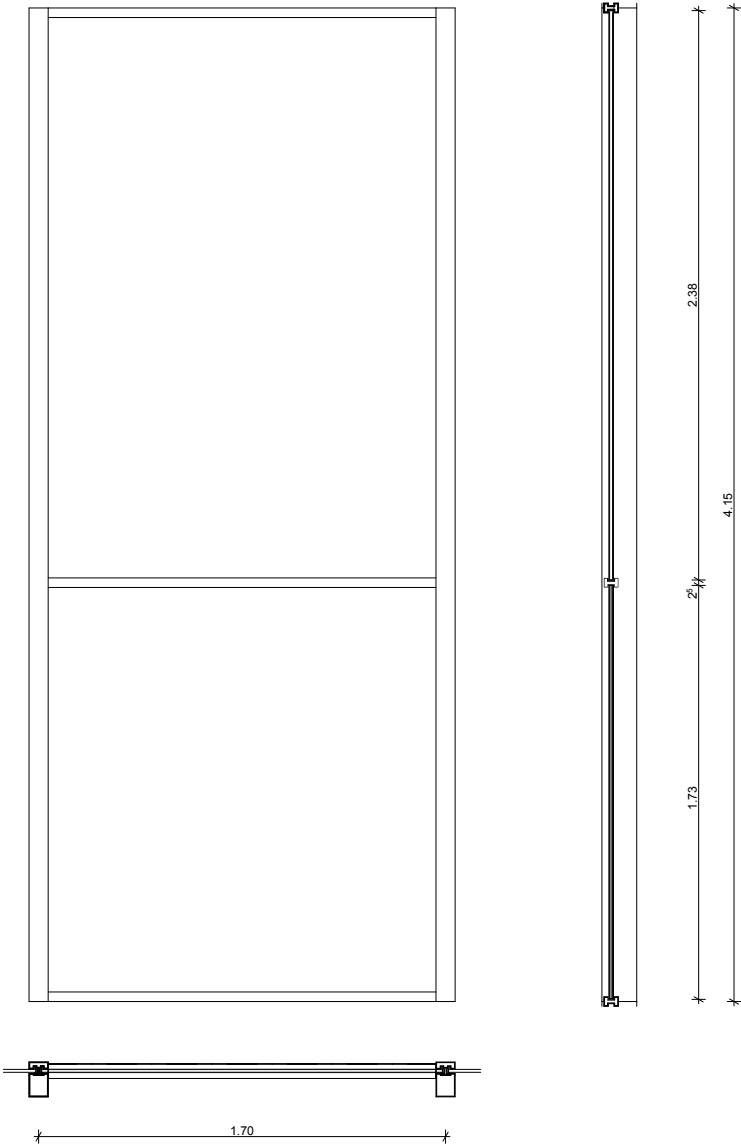
basement		ground floor		regular floors		additions	
storage rooms	8	entrance hall	1	laboratories	154	lifting platform	1
installation center	2	receiving department	1	cubicles (attached to each lab.)	154		
electrical room	1	mailroom	1	office rooms	60		
kitchen	1	workshop	1	meeting rooms	12		
sanitary rooms	5	stockroom	1				
food storage	2						

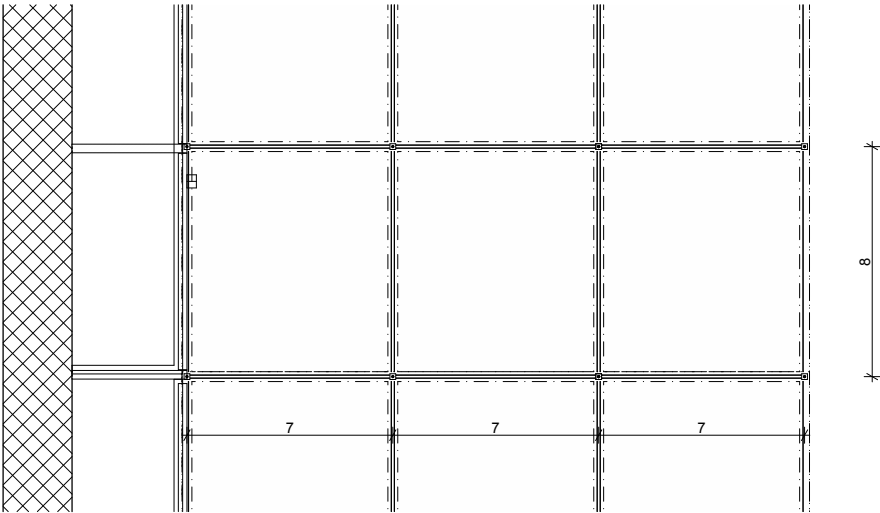
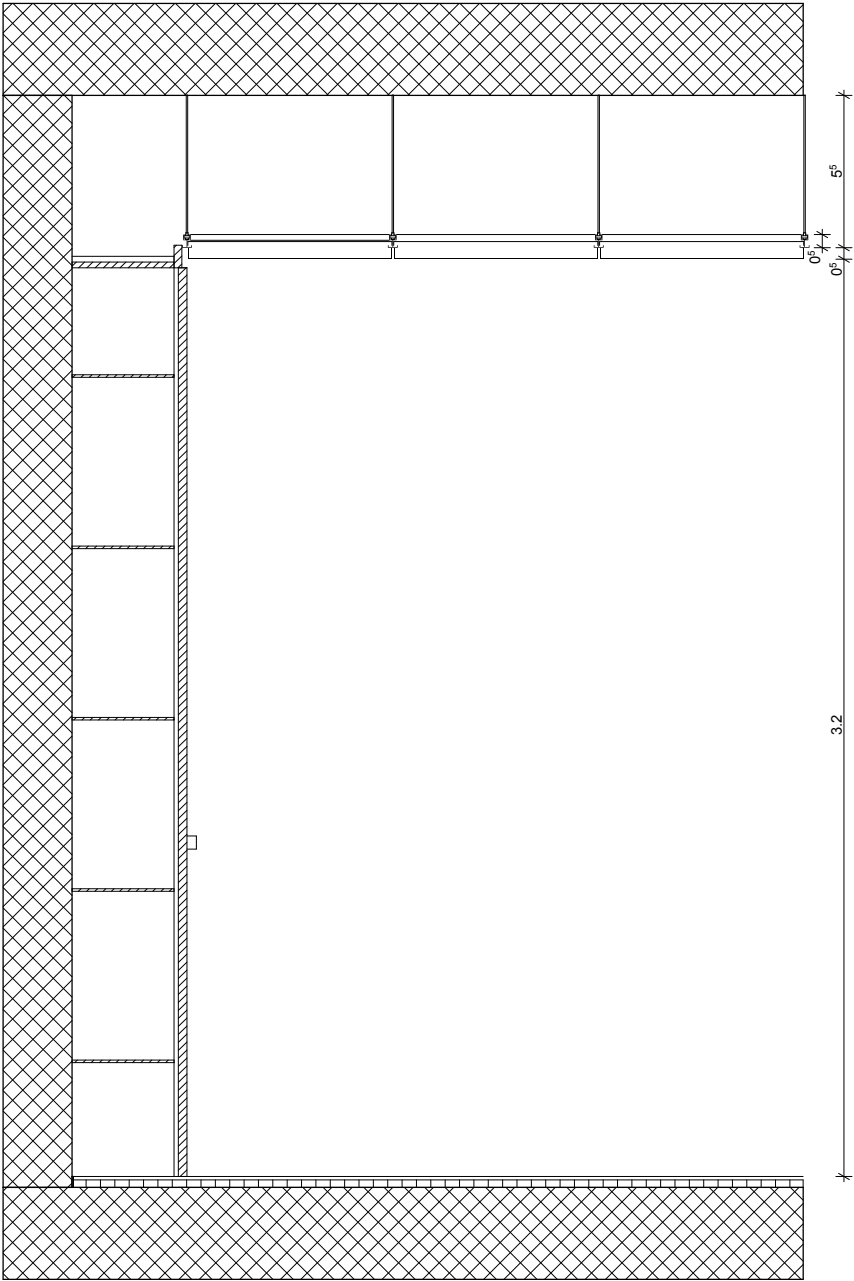
## components: quantity

Σ	component		material	quantity per component		total quantity	
		qty.		surface	volume	surface	volume
b127.1	glass block wall	/	glass	0.36m3	0.0029m3	648m2	51.84m3
b127.2	suspended ceiling	/	microperforated, polished metal sheets	0.576m2	0.023m3	2716m2	108.6m3
b127.3	suspended grid ceiling (in cubicles)	/	grid ceiling, galvanized steel, polyester powder coating	1.65m3	0.66m3	1524.6m3	60.9m3
b127.4	curtainwall (north-east-south-west)	882	colored thermopane glass framed with aluminium profiles grey-blue (window) stop ray safety glass, enamel-led blue (parapet)	7.05m2	0.705m3	6218.1m2	621.8m3

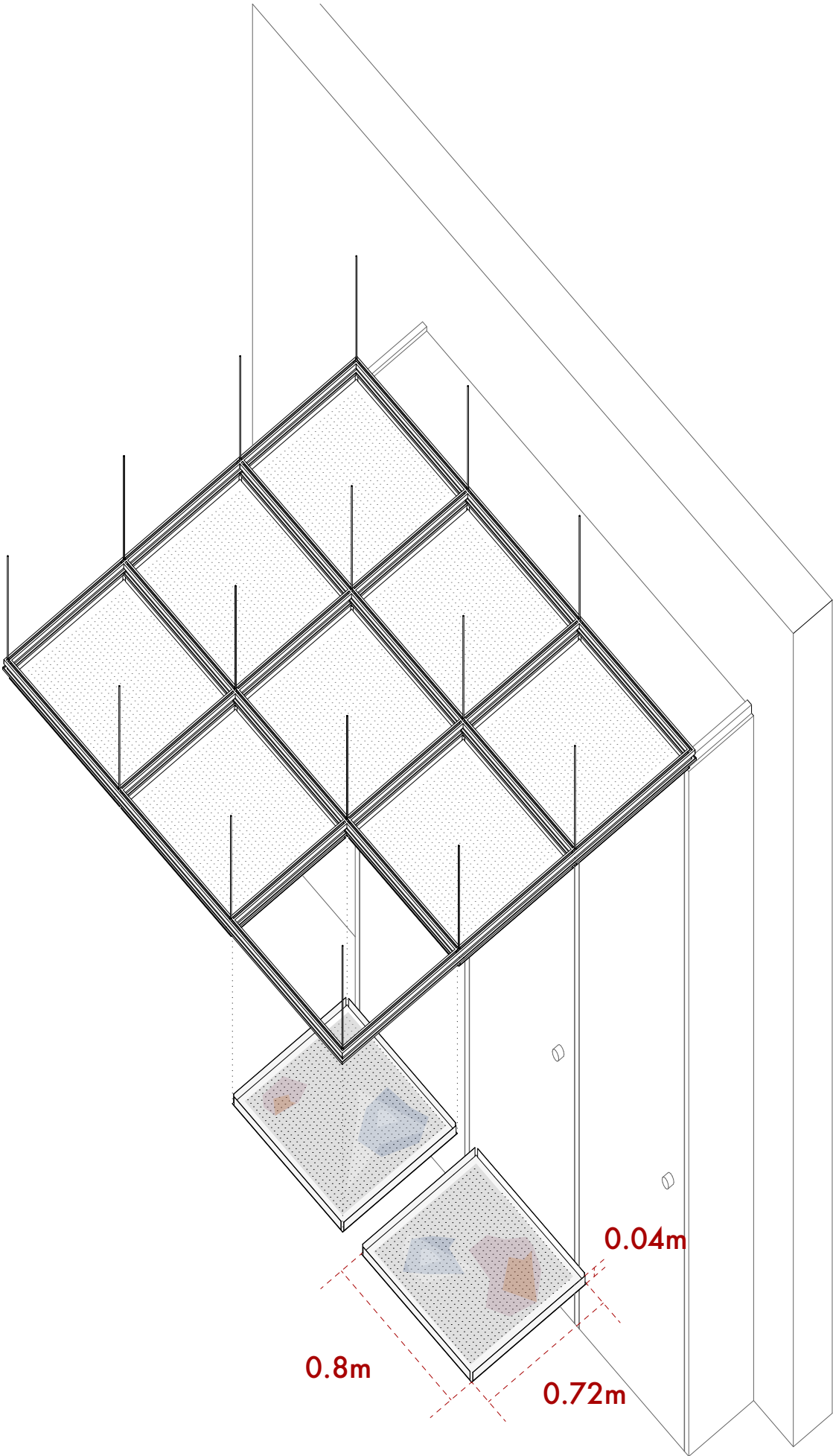
## components: value

Σ	component		elements		materials		value points	
		production process (up to 3 •)		production process (up to 4 •)		material quality and abrasion (up to 6 •)		
		• design of a component • assembling the component • installation of the component		• mining of raw materials • processing into composit material • design of elements • production of elements		• low • med. • high • low • med. • high		
b127.1	glass block wall	••	1. joint 2. glass block	•• •••	1. mortar 2. glass	•• •••	••	14
b127.2	suspended ceiling	•••	1. substructure 2. pannels	•••• ••••	1. aluminium 2. microperforated, polished metal sheets	•• •••	•••	24
b127.3	suspended ceiling	•••	1. substructure 2. pannels	•••• ••••	1. aluminium 2. grid ceiling, galvanized steel	•• •••	•••	24
b127.4	curtainwall (north-east-south-west)	•••	1. vertical profiles 2. horizontal profiles 3. window frame 4. window pane 5. glass frame 6. color glass	•••• •••• •••• •••• •••• ••••	1. aluminium 2. aluminium 3. aluminium 4. colored thermopane glass 5. aluminium 6. stop ray safety glass, enamel-led blue	•• •• •• ••• •• •••	• • • • • •	45



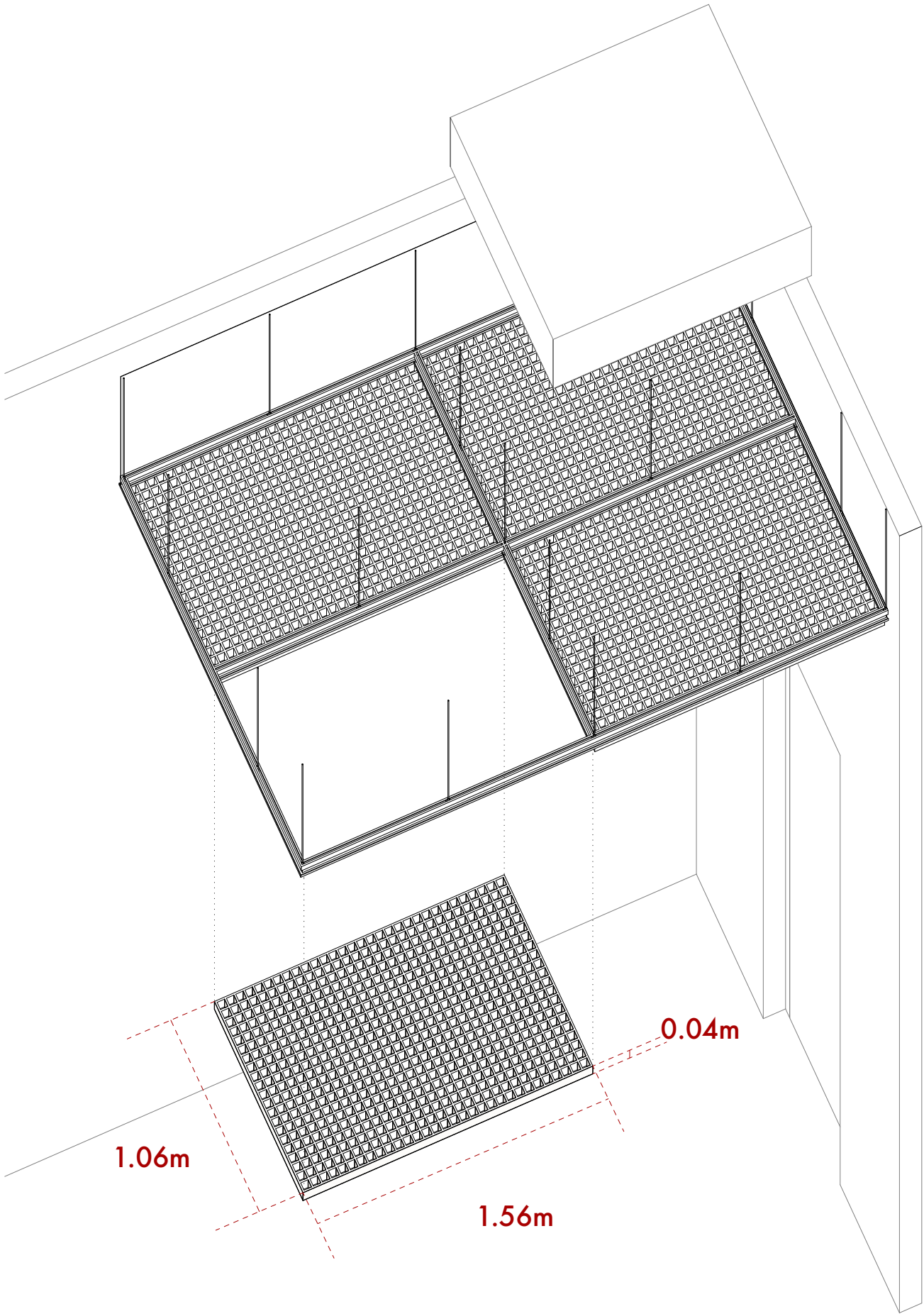
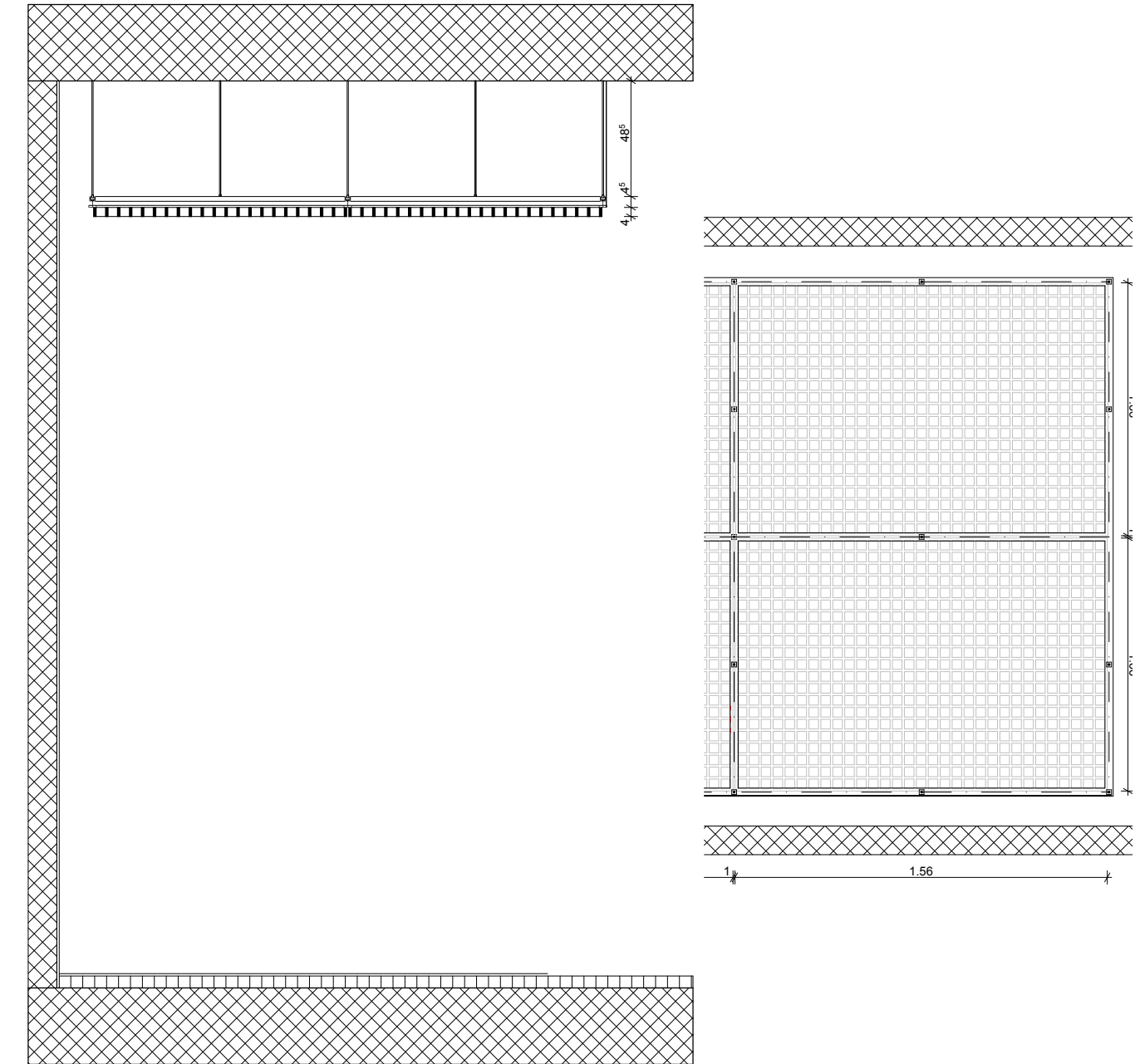


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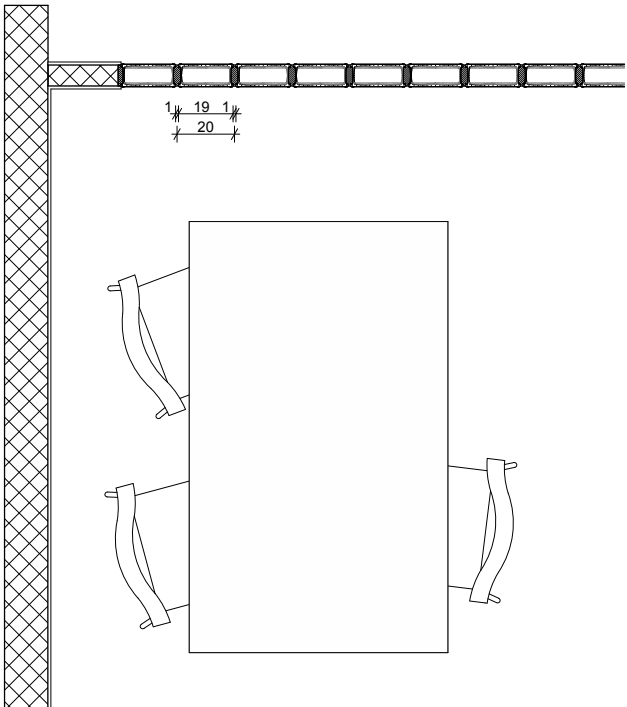
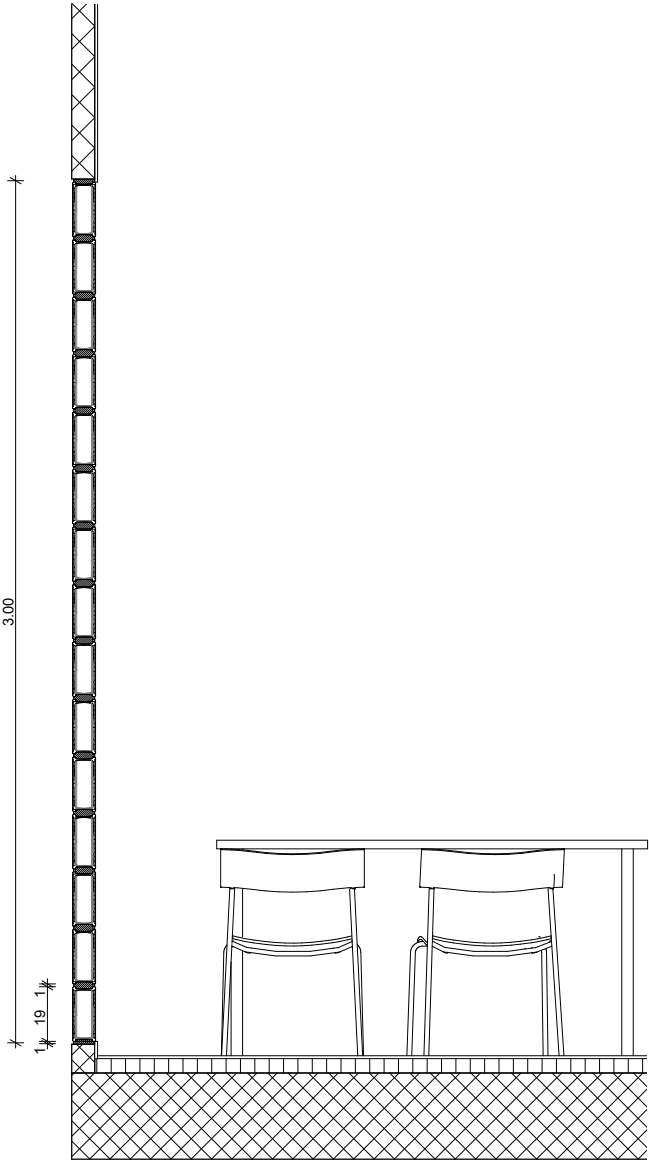
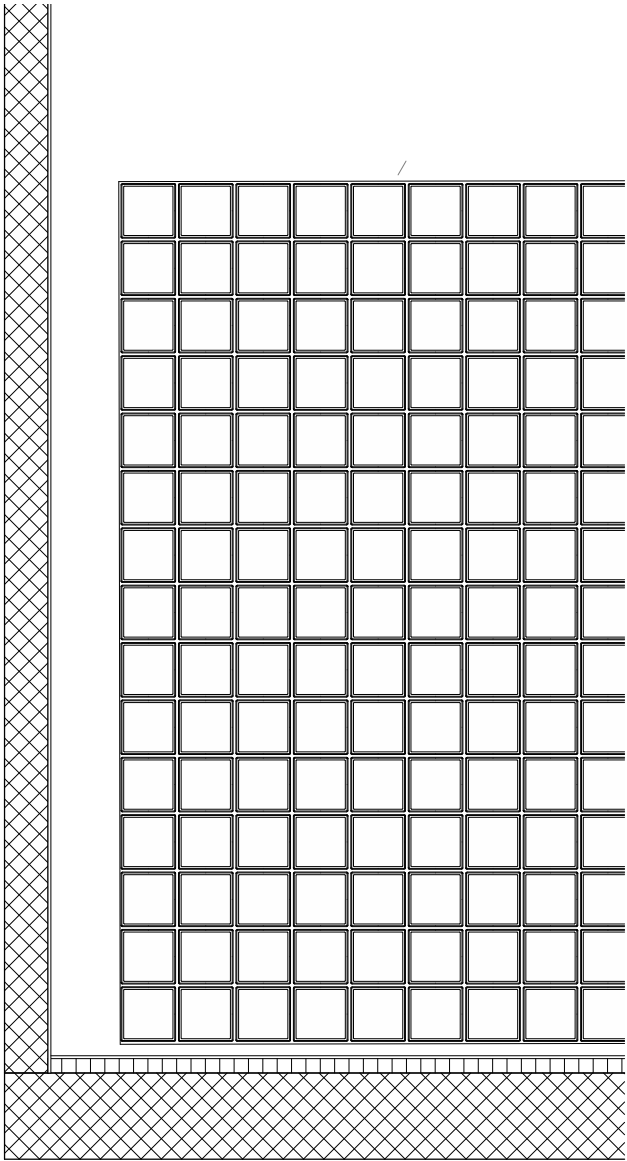


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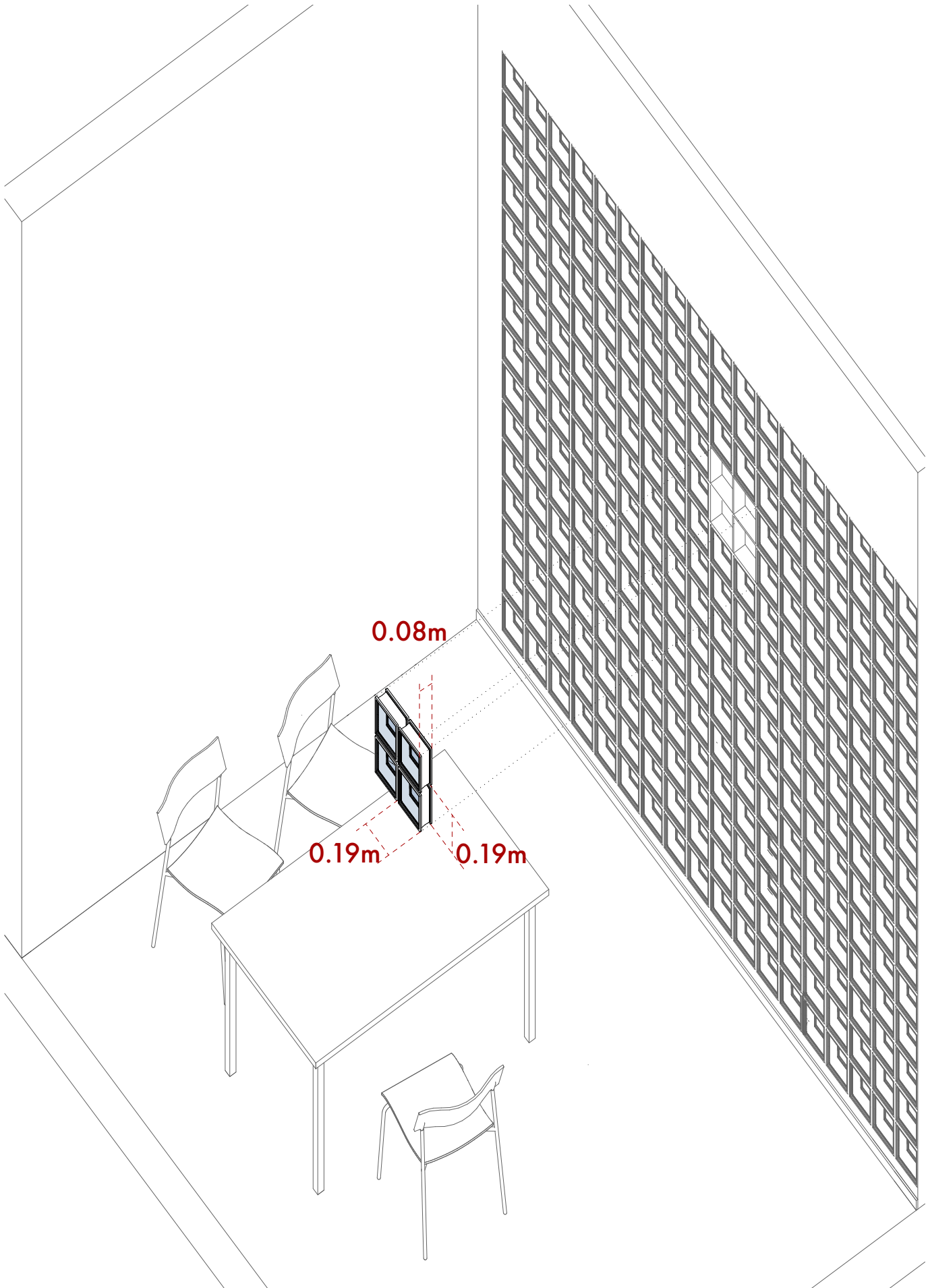








0 0.2 0.5m



0 0.2 0.5m



# BAU 430

## building specification:

start of construction	1955
end of construction	1957
basement	1
ground floor	1
upper floors	3
height	24.4m (from basement)
length	70.7m
width	20.3m
floor area	1334m2 (regular floor)
building volume	27080m3
time in use	63

## construction:

construction	reinforced concrete construction
supports	
facade	curtainwall glass facade
ceiling	concrete
base	concrete
axle dimensions	5.4m
storey height	4.5m
clear room height	3.44m (up to suspended ventilating ceiling)

**use:** The original staff restaurant was converted into an office building and training centre.

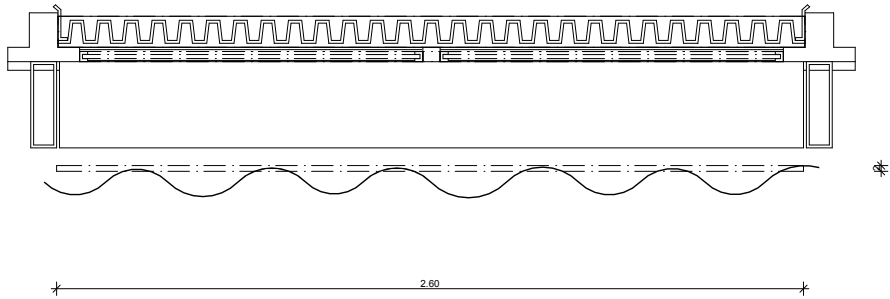
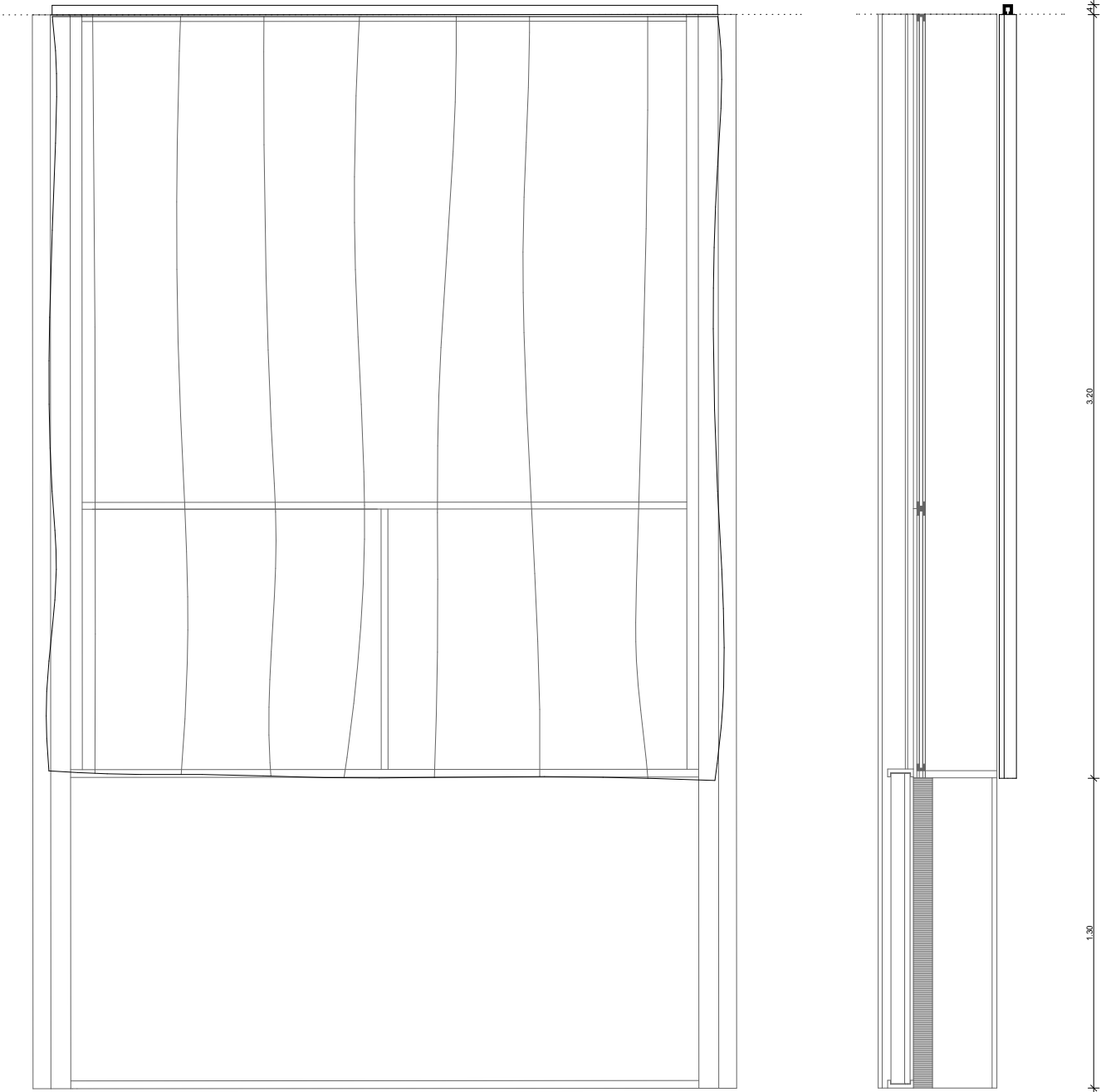
basement	ground floor	regular floors	additions (3rd floor)
storage rooms	entrance hall	1	training rooms
	service/informatics rooms		office rooms
	kiosk		meeting rooms
	office rooms		group rooms
	meeting rooms		foyer and break rooms
	group rooms		storage rooms
			kitchen
			storage rooms
			visitors restaurant
			dining rooms
			training room
			foyer

## components: quantity

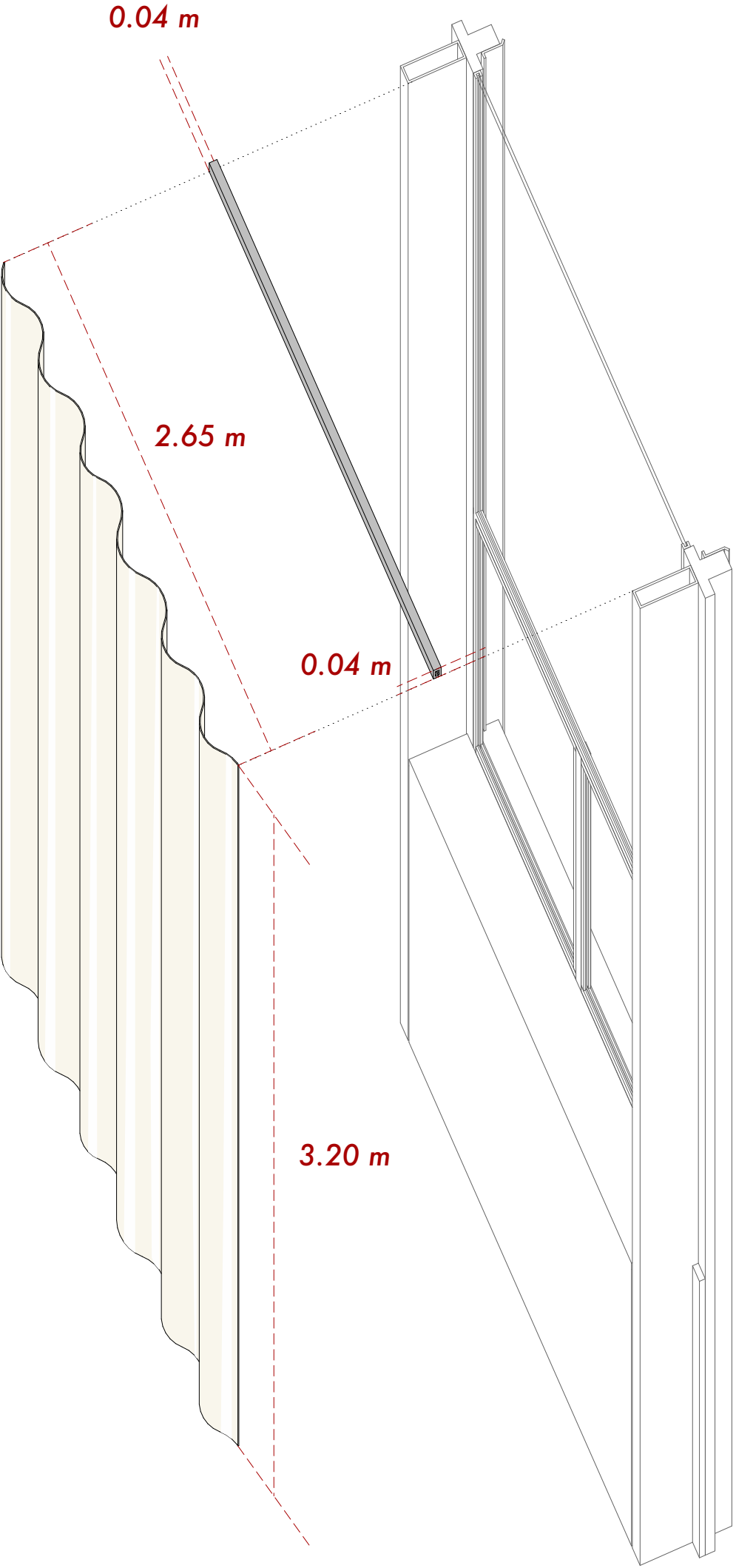
° Σ	component	material		quantity per component		total quantity	
		qty.		surface		surface	volume
b430.1	curtain	64	polyester	8.55m2	/	547.7m2	/
b430.2	suspended ceiling	135	wood	1.25m2	0.063m3	168.75m2	8.5m3
b430.3	suspended ceiling	112	plastic cover, orange	1.49m2	0.037m3	166.88m2	4.165m3
b430.4	curtainwall (north-east-south-west)	192	ventilated glass (windows), peramulan construction, anodised aluminium (parapet)	12.15m2	1.46m3	2332.8m3	279.9m3

## components: value

° Σ	component	elements		materials		value points	
		production process (up to 3 •)	production process (up to 4 •)	material quality and abrasion (up to 6 •)			
		• design of a component • assembling the component • installation of the component	• mining of raw materials • processing into composit material • design of elements • production of elements		•low ••med. •••high	•high ••med. •••low	
b430.1	curtain	••	1. curtain 2. curtain rail	•• •••	1. polyester 2. aluminium	•• •••	16
b430.2	suspended ceiling (auditorium)	••	1. substructure 2. pannels	•••• ••	1. aluminium profiles 2. inclined wooden boards	•• •••	18
b430.3	suspended ceiling (kitchen)	••	1. substructure 2. pannels	•••• •••	1. aluminium profiles 2. curved plastic organge	•• •••	19
b430.4	curtainwall (north-east-south-west)	•••	1. vertical profiles 2. horizontal profiles 3. window frame 4. window pane 5. anchoring 6. corrugated sheet	•••• •••• •••• ••• •••• •••	1. aluminium 2. aluminium 3. aluminium 4. insulating glass 5. flat steel 6. anodised aluminium	•• •• •• ••• •• •••	45

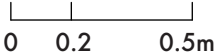
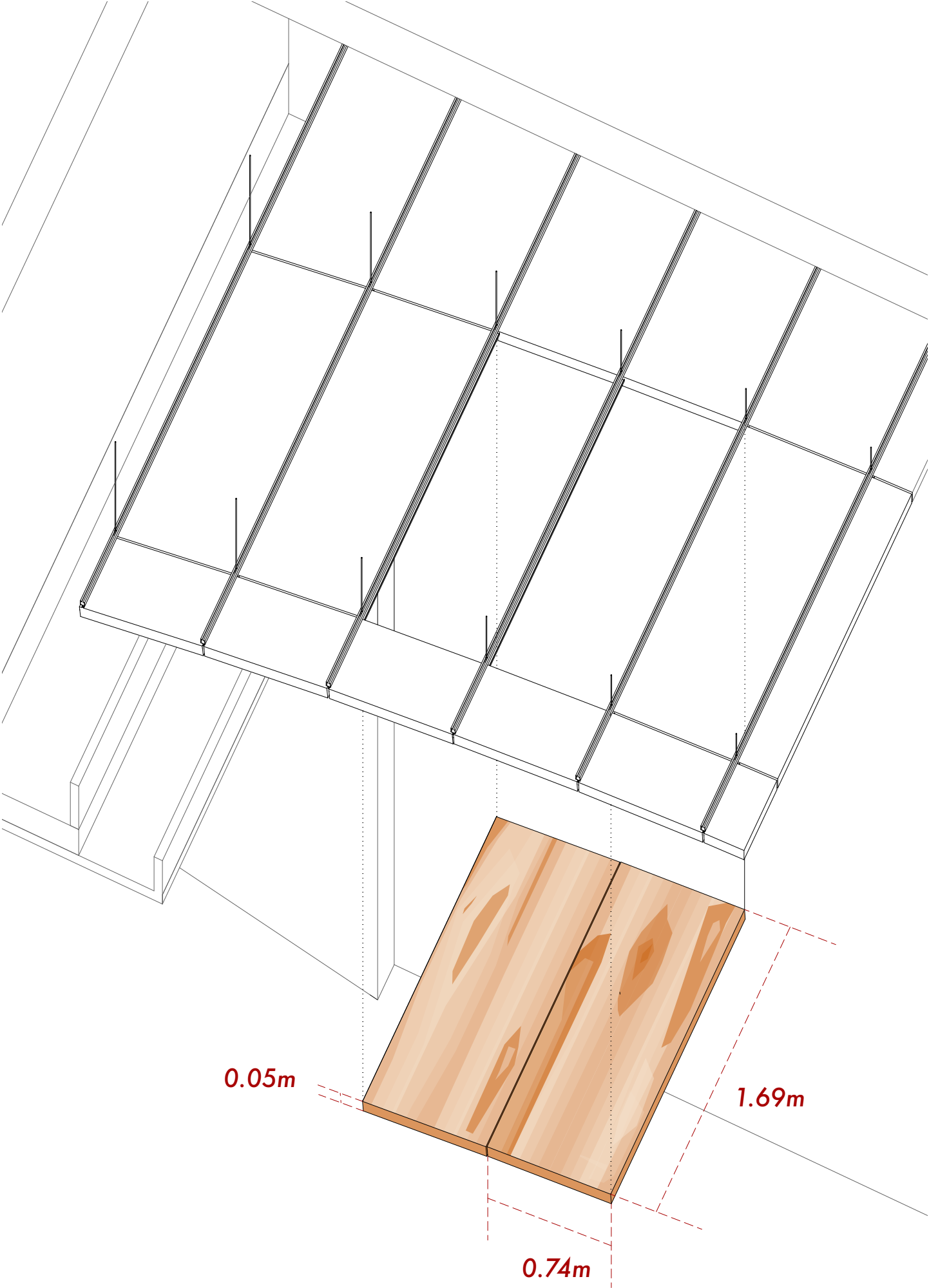
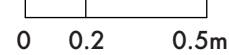
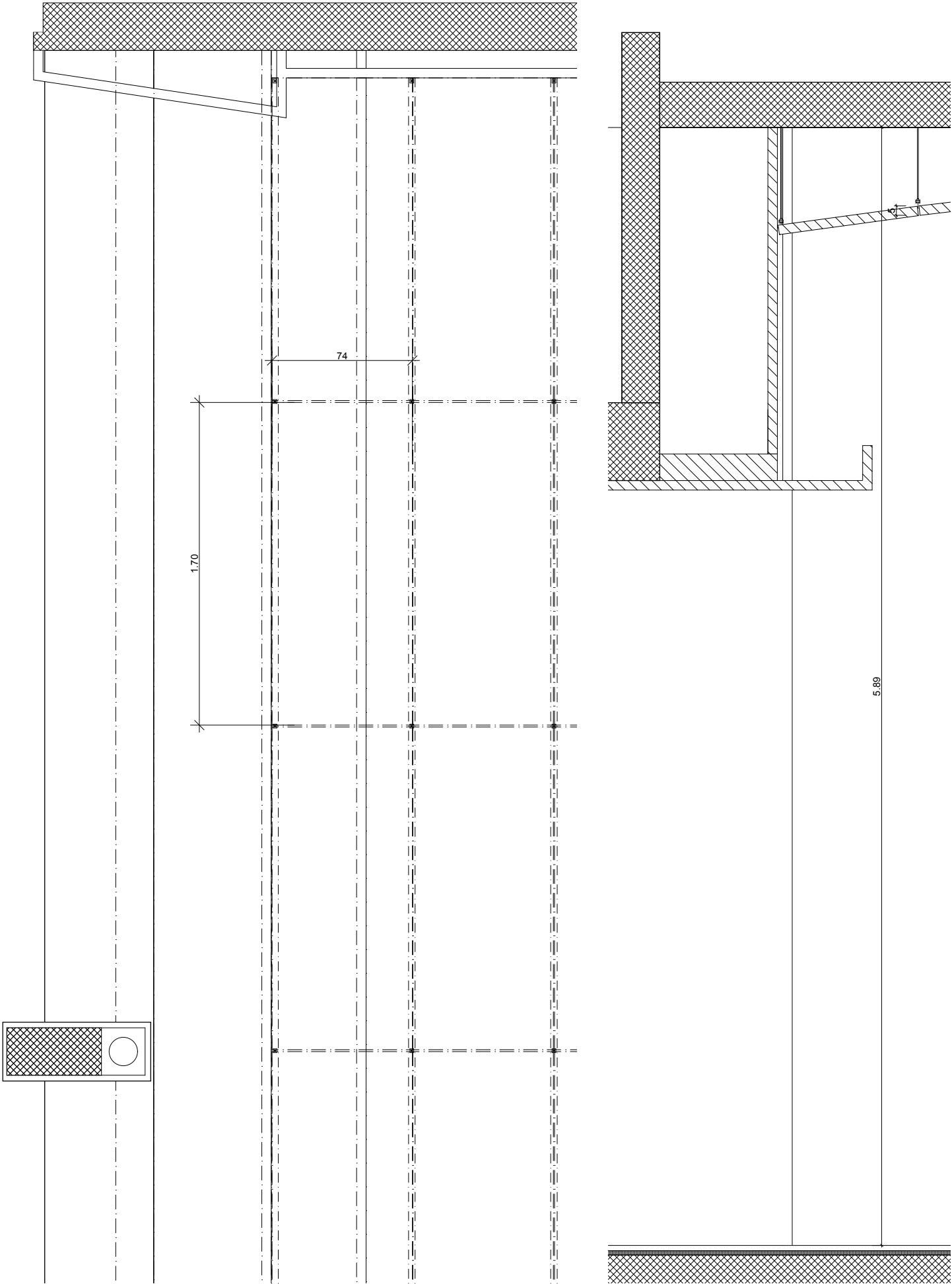


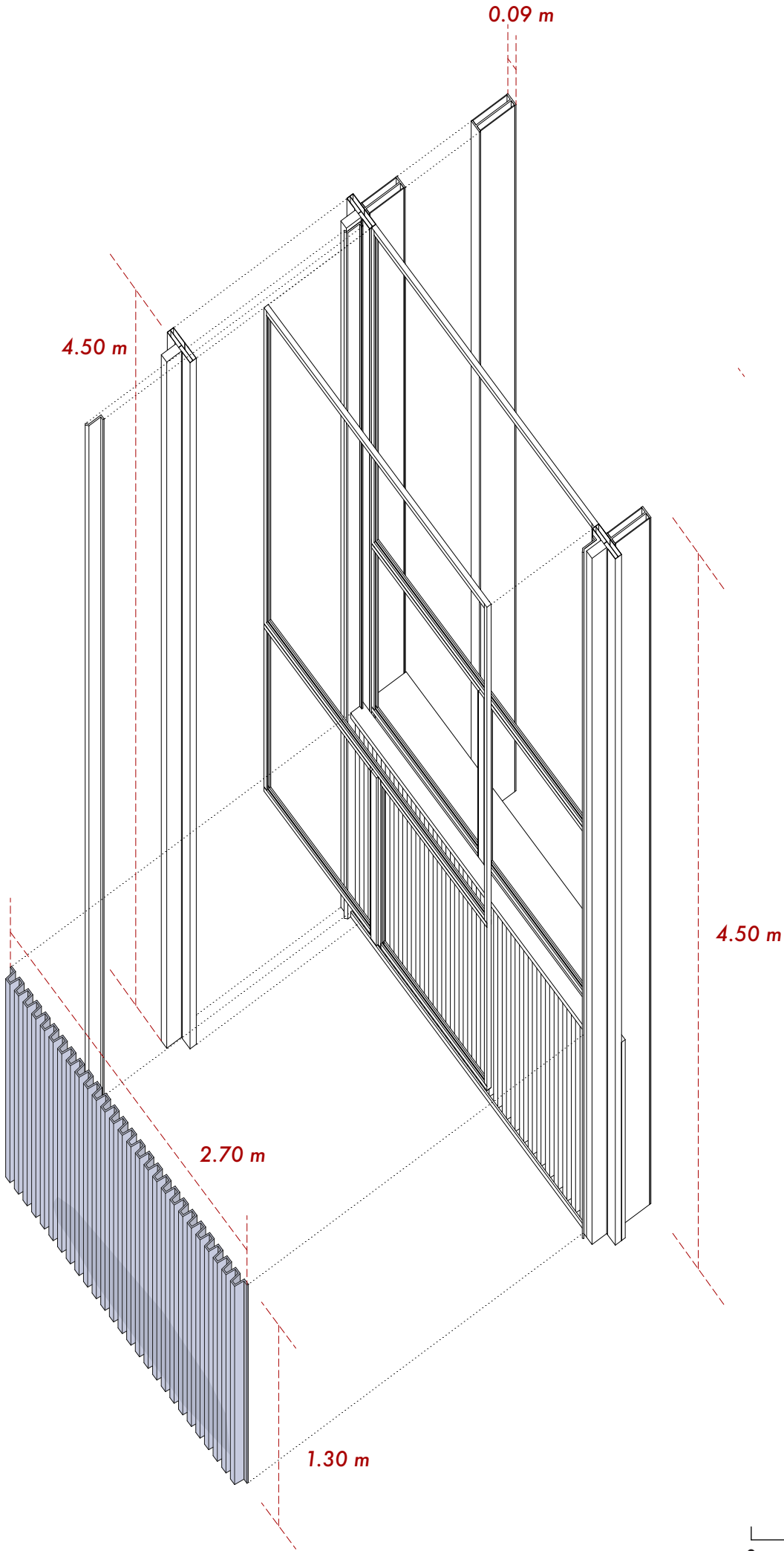
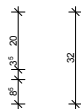
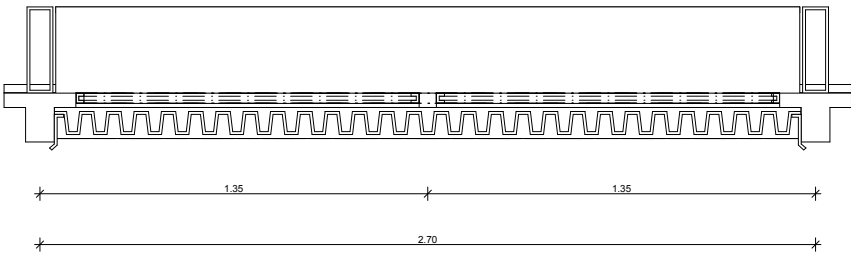
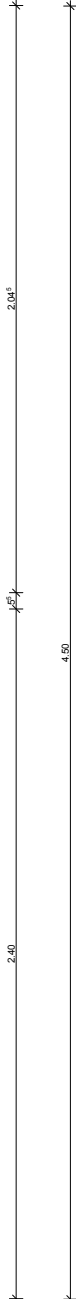
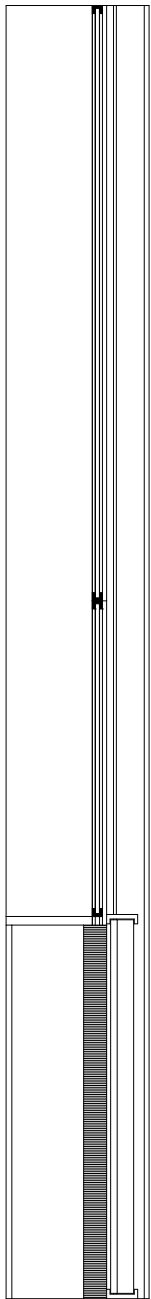
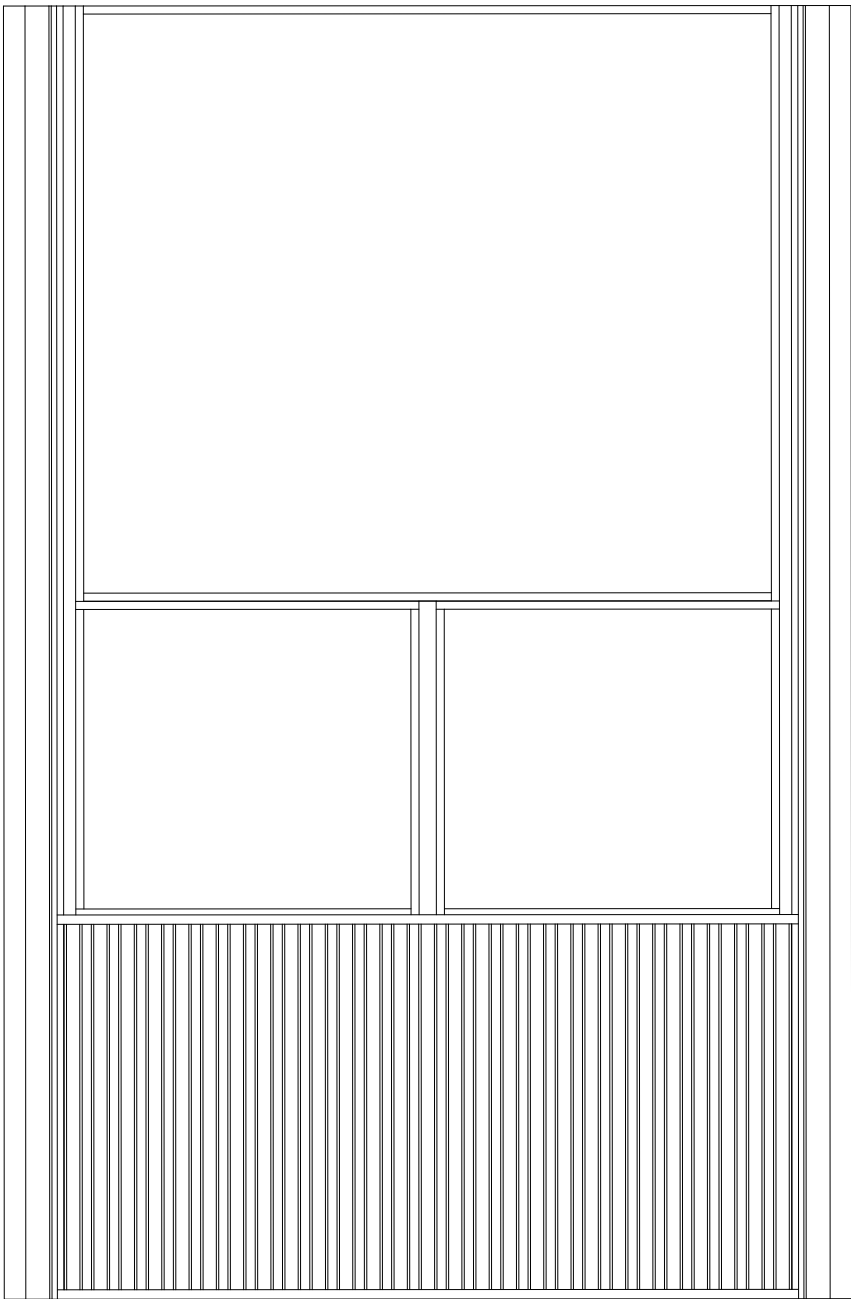
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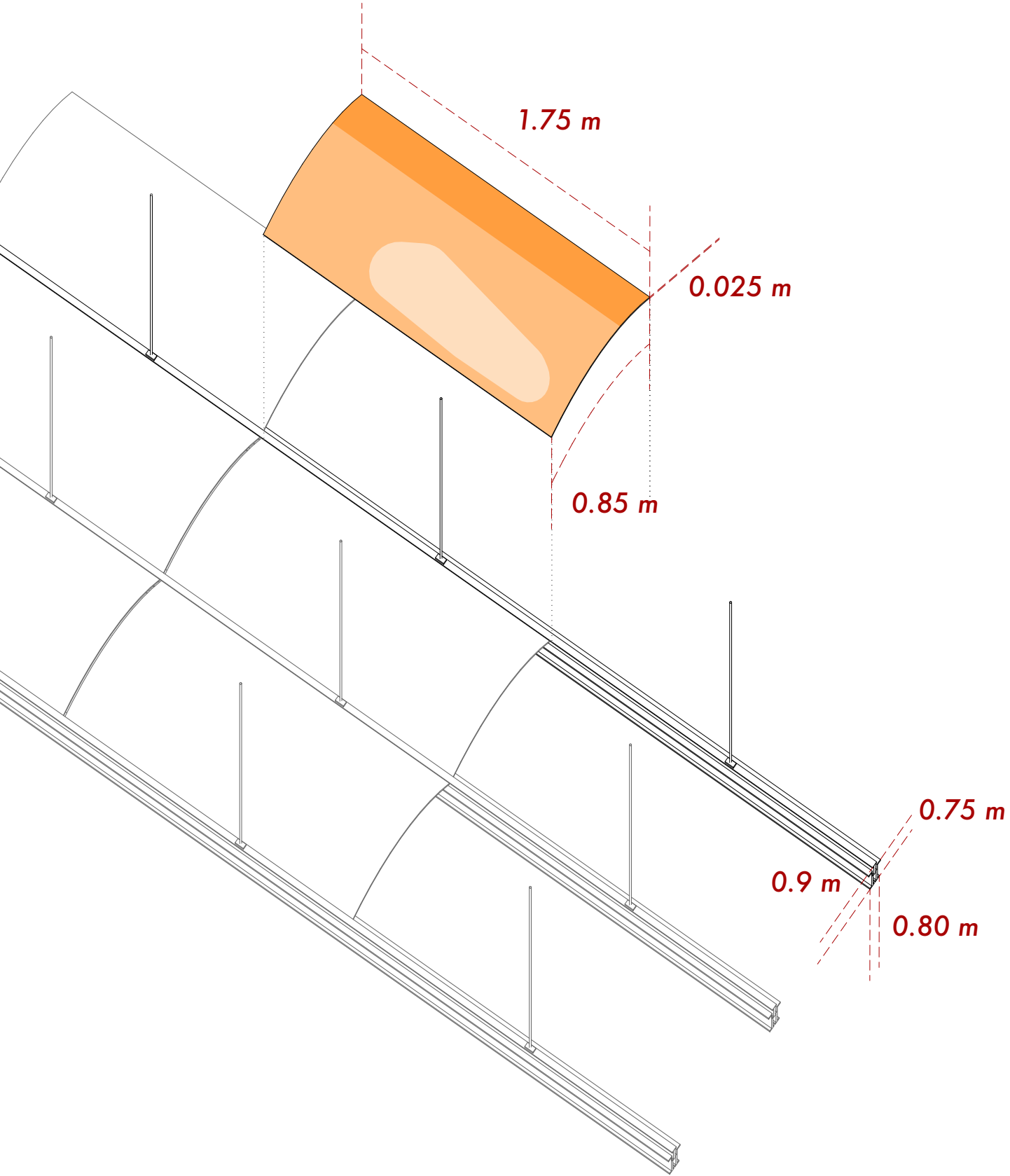
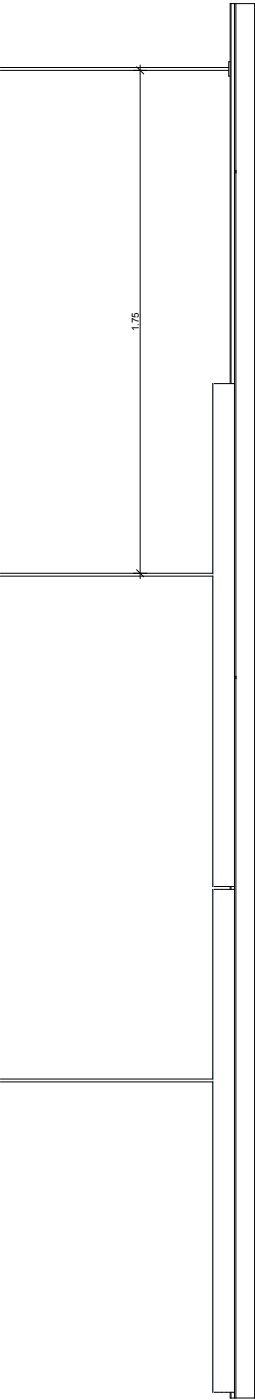
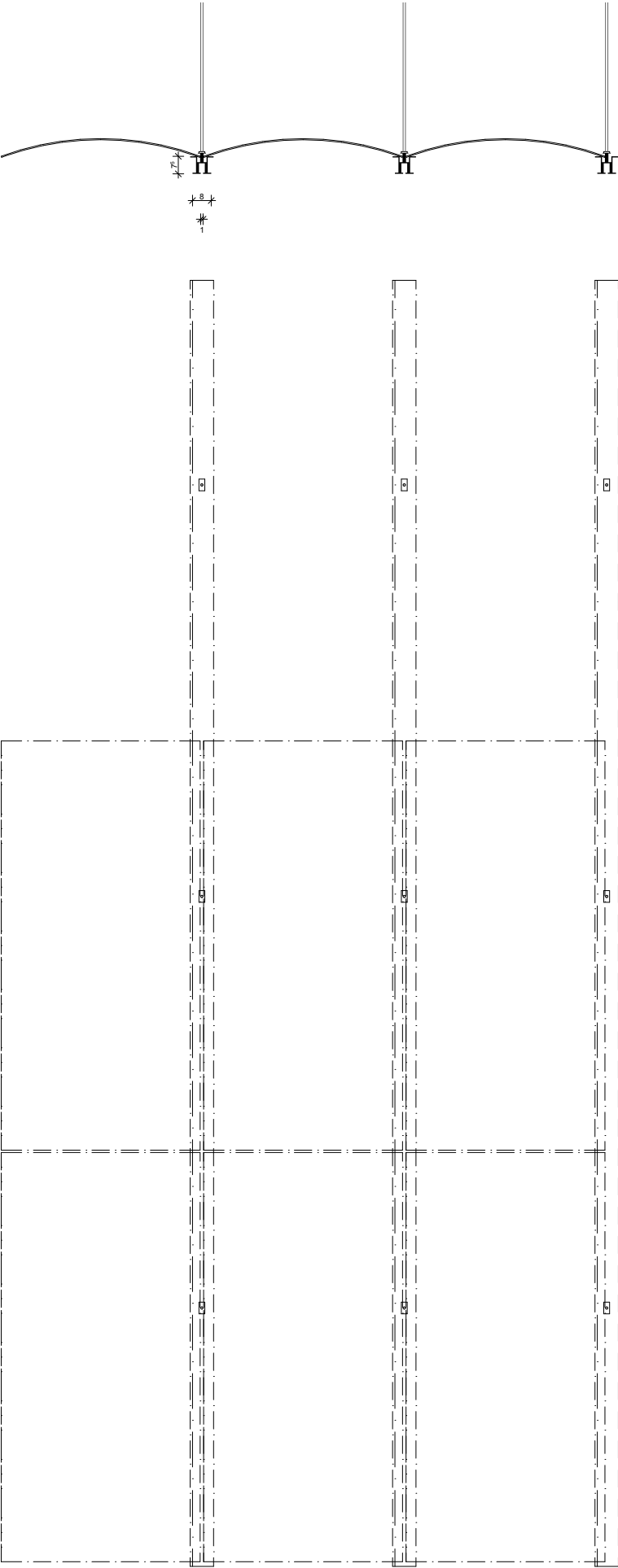
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# BAU 444

## building specification:

start of construction	1960
end of construction	1963
basement	1
ground floor	1
upper floors	4
height	20.18m (from basement)
length	106.5m
width	48.1m
floor area	5122.5m2
building volume	103’375m3
time in use	57

## construction:

construction	prestressed reinforced concrete structure
supports	/
ceiling	concrete
facade	none (concrete elements as sun shields)
base	/
axle dimensions	17.75m
storey height	2.75m
clear room height	/

**use:** The car park building consists of three similar parts and offers parking lots for 1100 cars. Its use never changed.

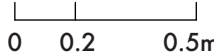
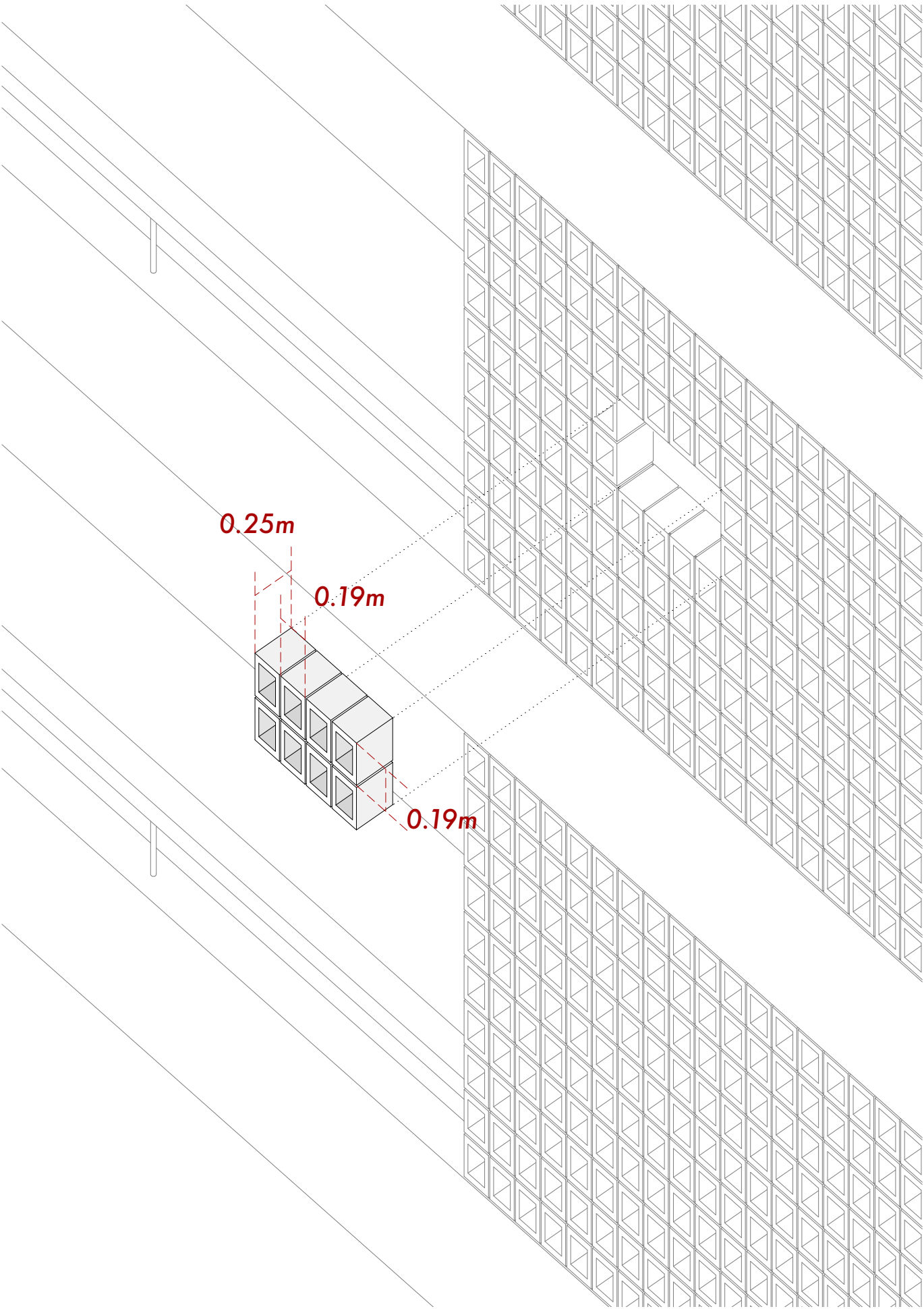
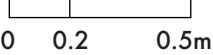
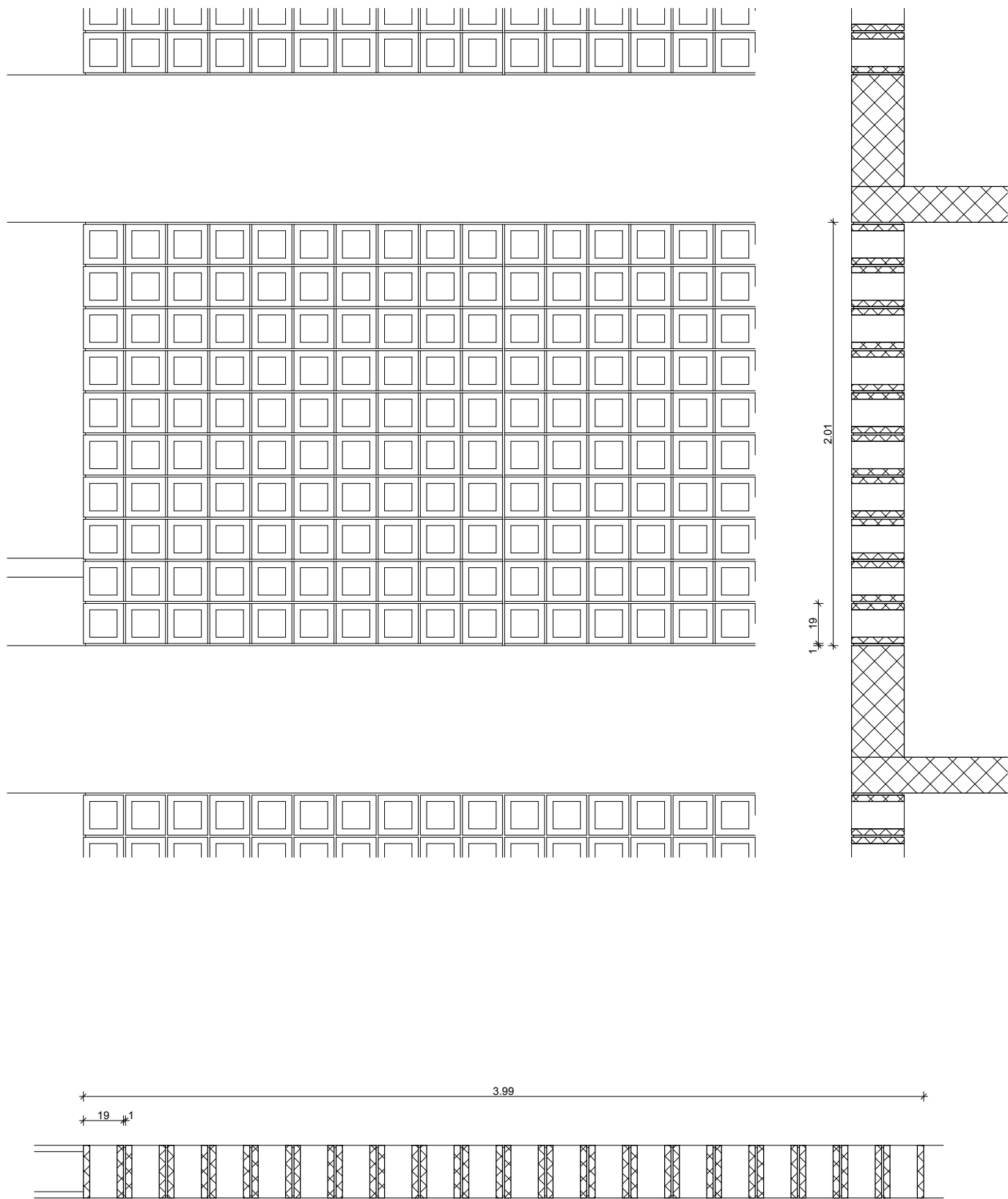
basement		ground floor		regular floors		additions	
air-raid shelter	12	continuing helix ramps	3				
toilets	7	parking lots attachet to ramps	1100				
watertanks	2						
sleeping rooms	2						
emergency power	2						
control rooms	5						

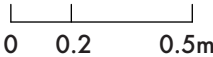
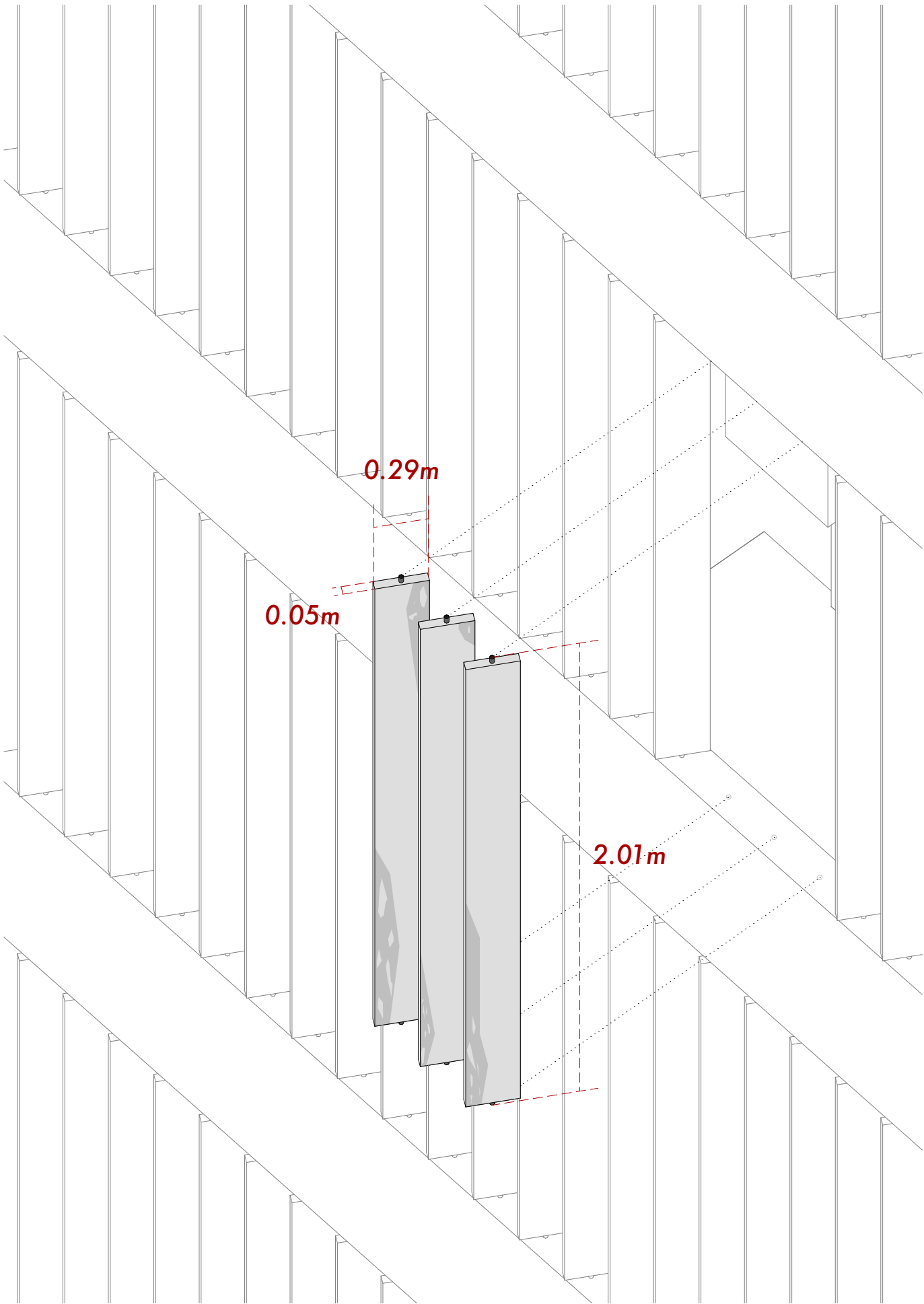
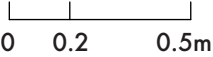
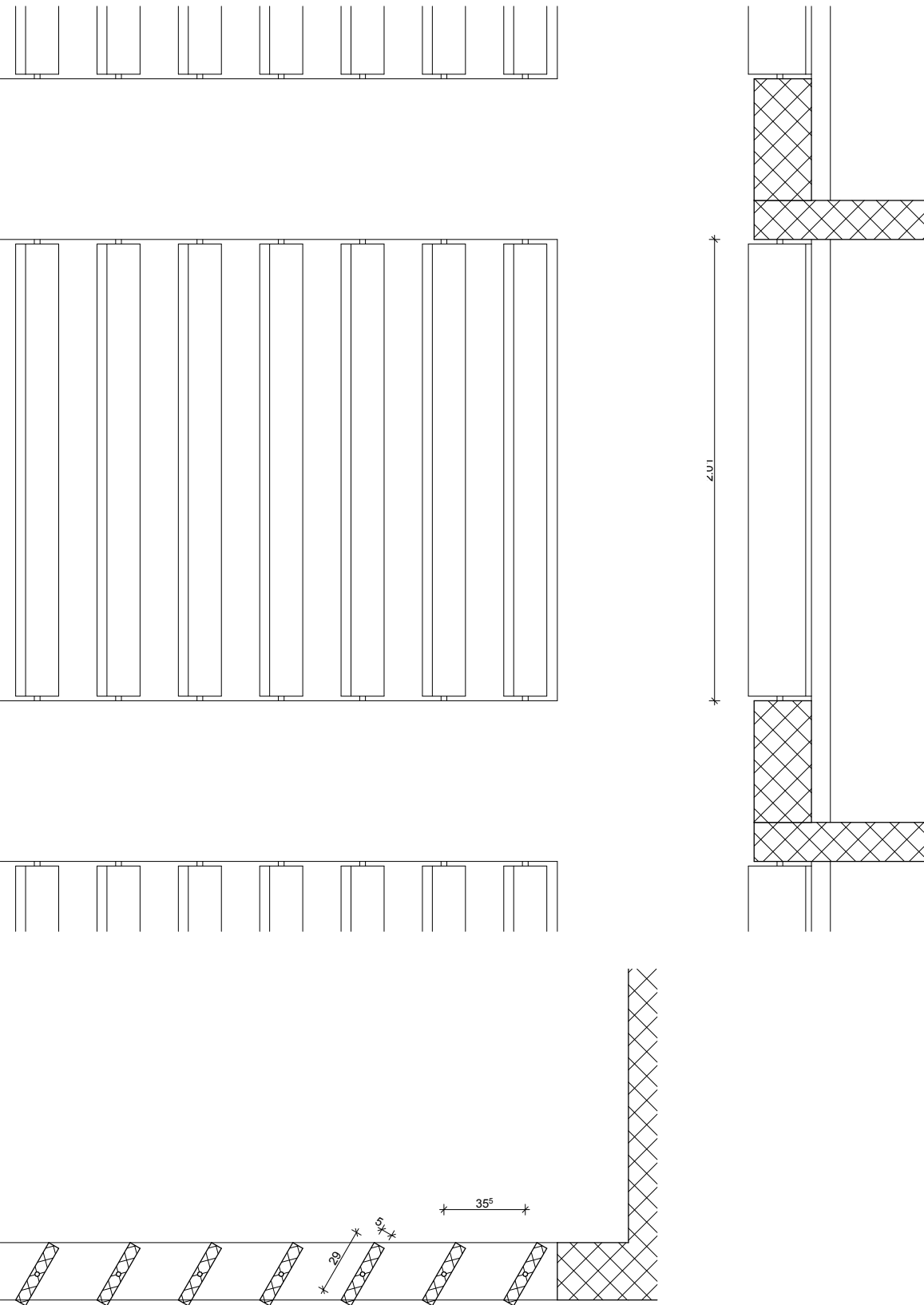
## components: quantity

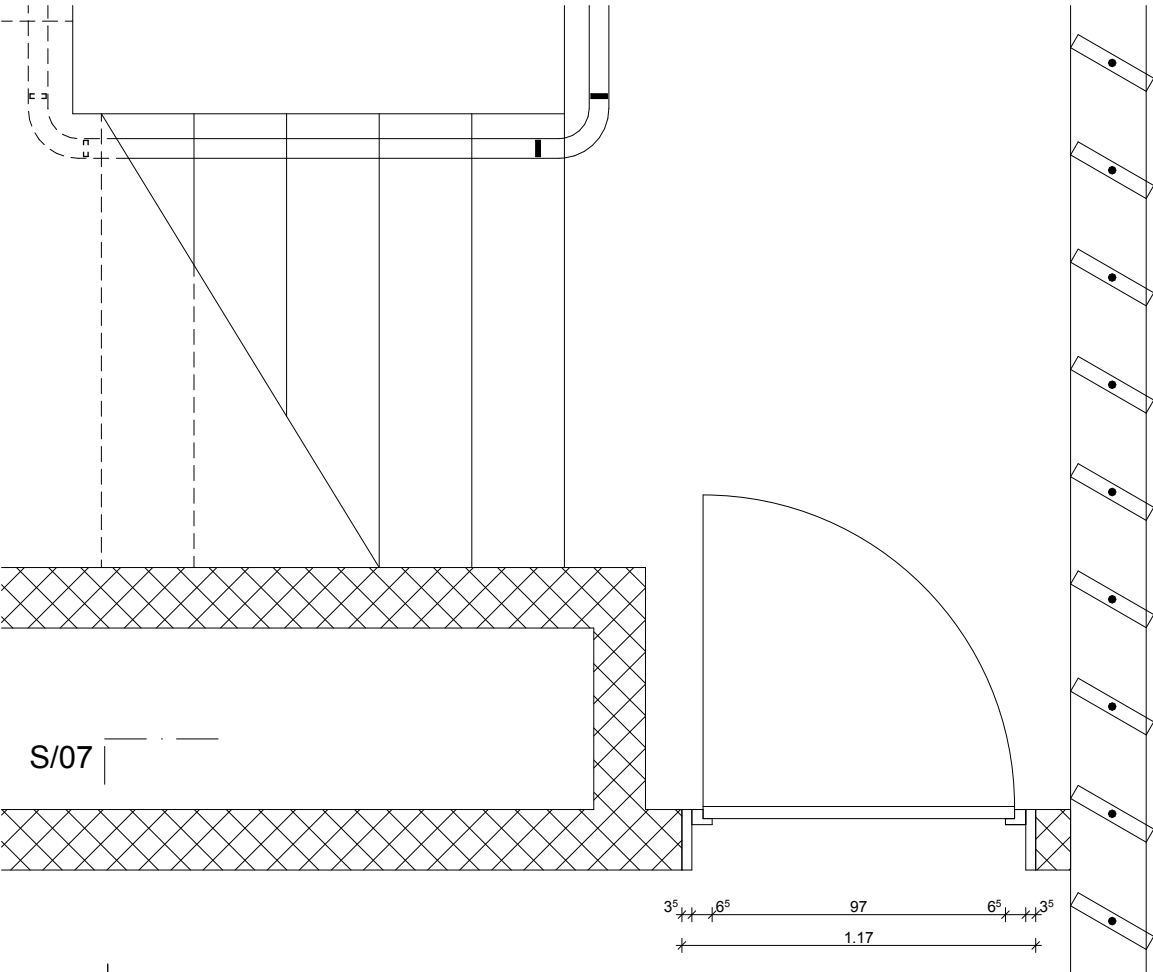
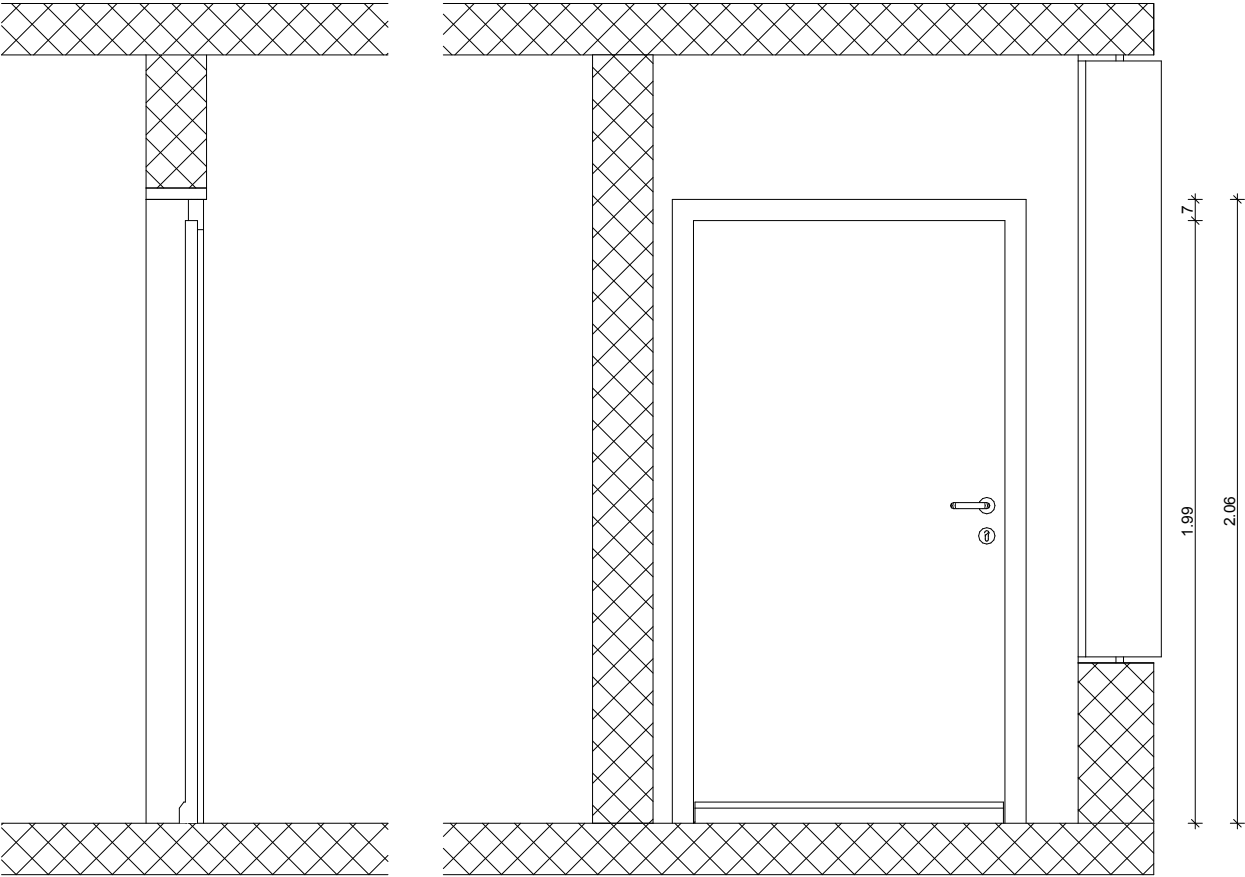
° Σ	component	material	quantity per component		total quantity	
			qty.	surface	surface	volume
b444.1	building blocks (north facade)	° concrete		0.36m2	0.009m3	ca. 586m2 146.47m3
b444.2	sun shields (south facade)	° concrete		0.58m2	0.029m3	ca. 586m2 29.3m3
b444.3	doors	32 aluminium, coated, green		2.46m2	0.2m3	78.8m2 6.4m3

## components: value

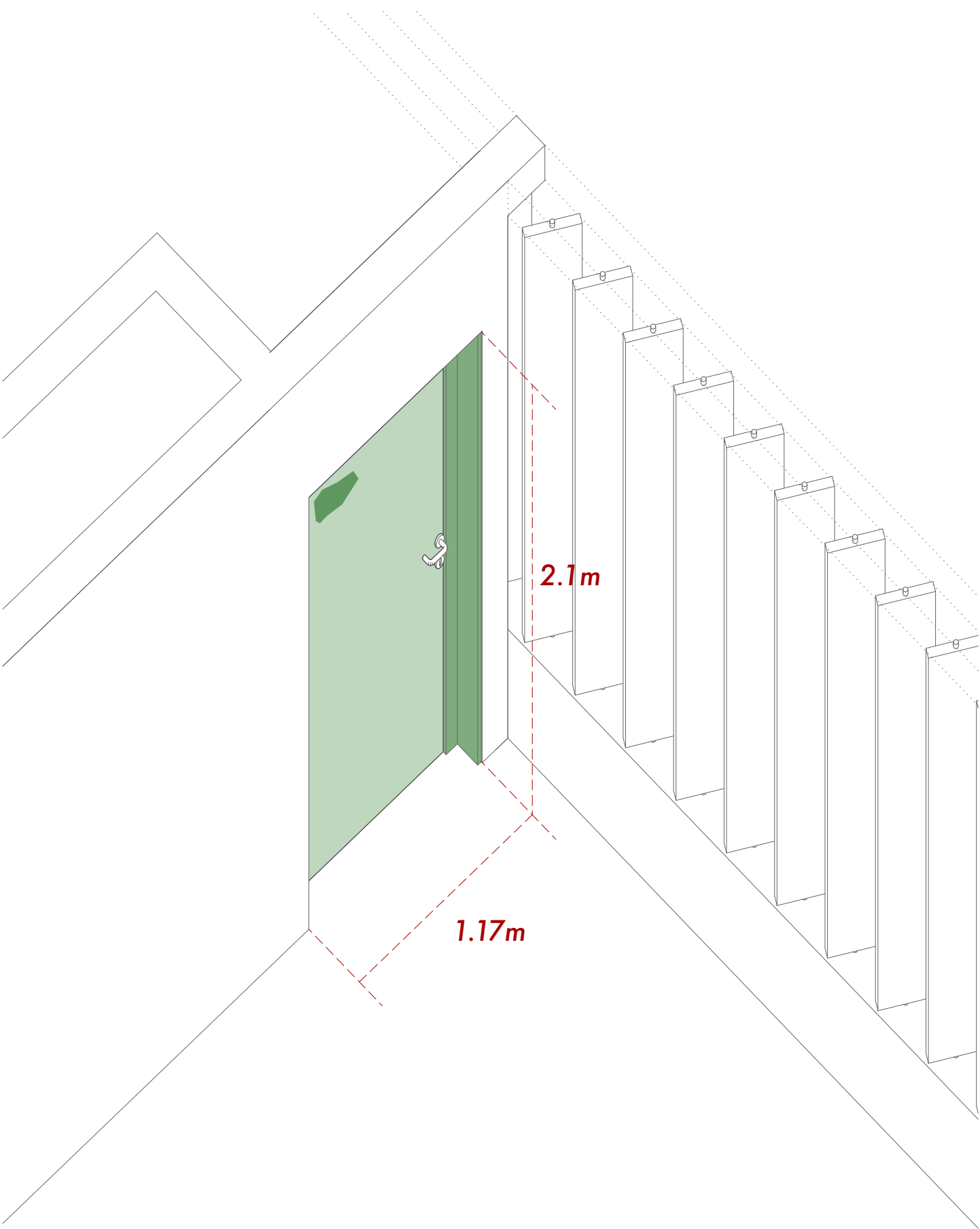
° Σ	component	elements	materials	value points
	production process (up to 3 •)	production process (up to 4 •)	material quality and abrosion (up to 6 •)	
	• design of a component • assembling the component • installation of the component	• mining of raw materials • processing into composit material • design of elements • production of elements	•low •high ••med. ••med. •••high •••low	
b444.1	building blocks (north facade)	•• 1. brick 2. joint	••• 1. concrete 2. mortar	13
b444.2	sun shields (south facade)	•• 1. shield 2. anchoring	••• 1. concrete 2. steel	14
b444.3	doors	•• 1. door frame 2. door leaf	•••• 1. aluminium 2. aluminium	20







0 0.2 0.5m



0 0.2 0.5m





# BAU K-26

## building specification:

start of construction	?
end of construction	1937
basement	1
ground floor	1
upper floors	8
height	34,2m (from basement)
length	45.5m
width	24m
floor area	1’350m3
building volume	44’625m3
time in use	83

## construction:

construction	column slab construction with reinforced concrete
supports	
ceiling	
facade	window hinges with metal bars
base	
axle dimensions	varying from xxm to xxm
storey height	3.5m, 2.8m
clear room height	3.2m, 2.5m

**use:** The building served as a warehouse building with storage rooms for raw materials filled in sacks and barrels. At that time, the offices of the warehouse administration were also located here. Today the building is largely unused, only a few private individuals store their objects there.

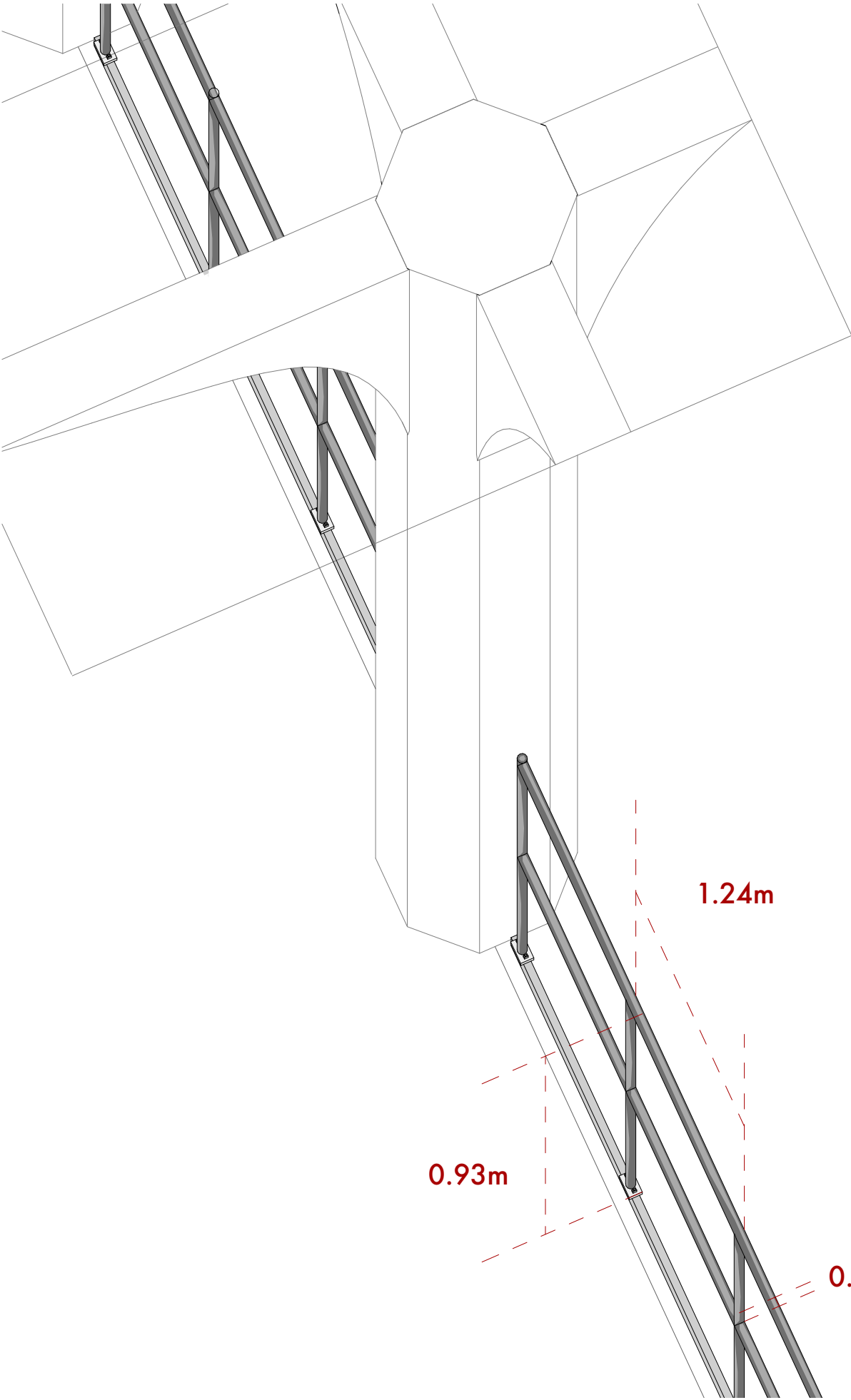
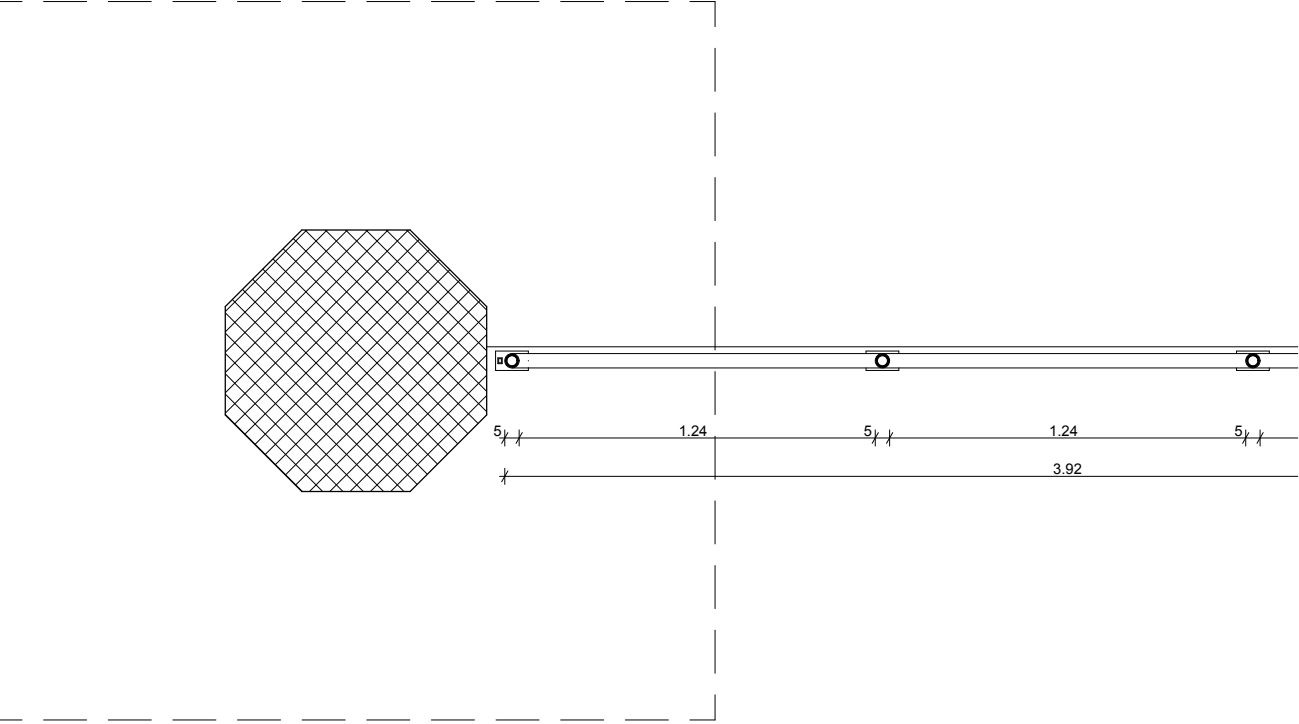
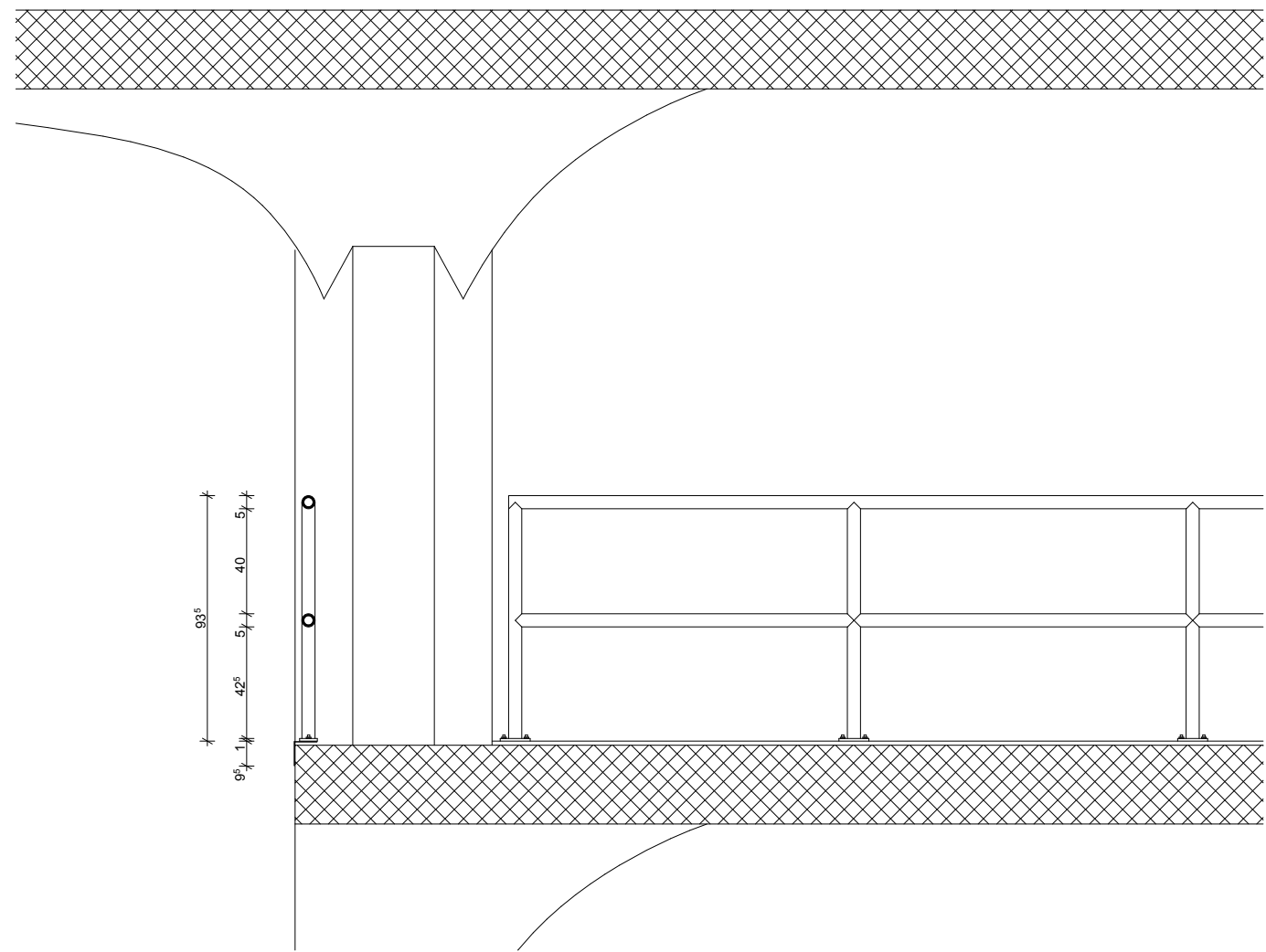
basement	ground floor	regular floors	additions
chemistry storage	receiving department	furniture storage	
	leftover storage	chemistry storage	
		operating materials storage	
		leftover storage	
		two small offices 2nd floor	

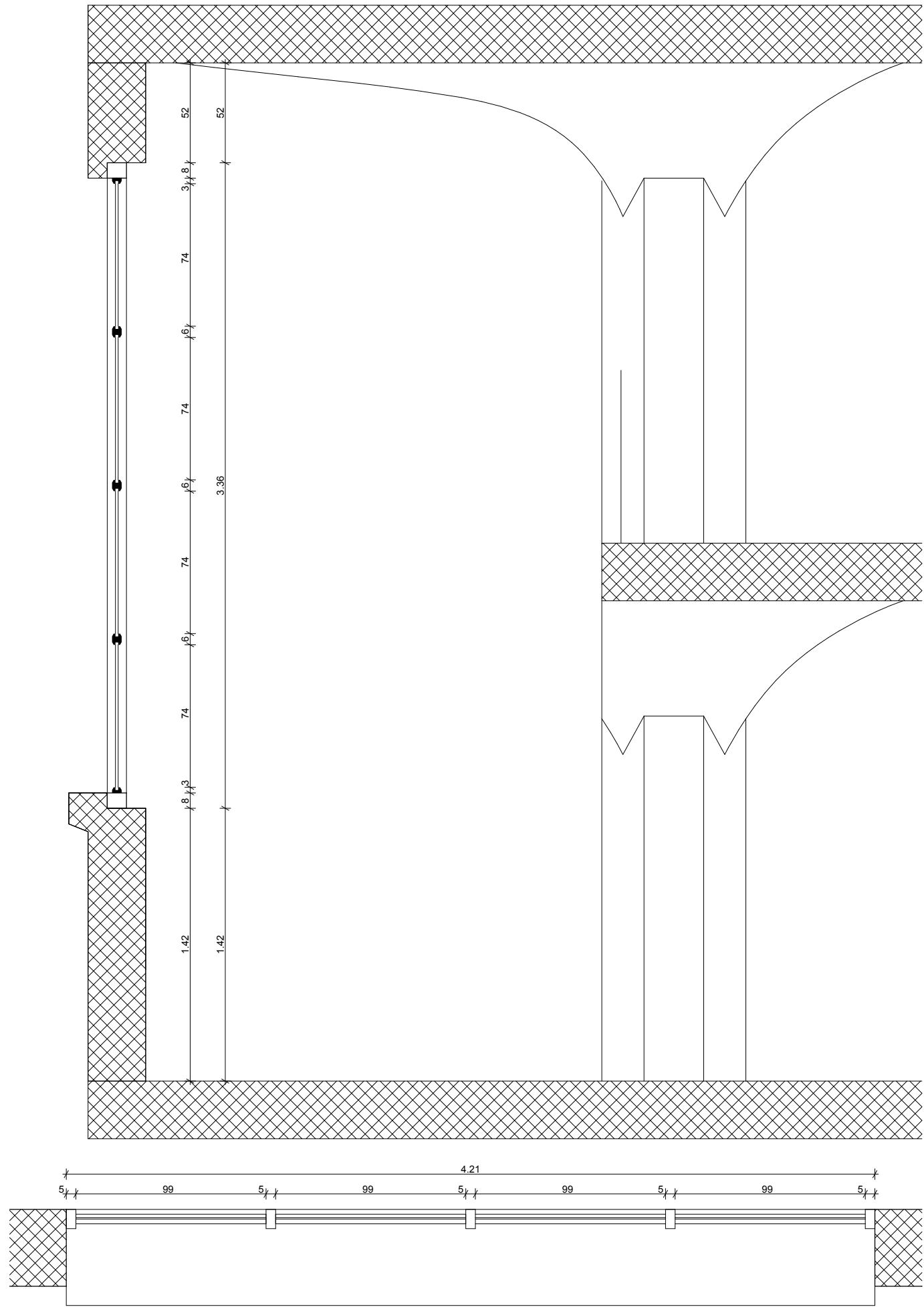
## components: quantity

Σ	component	material		quantity per component		total quantity	
		qty.		surface		surface	volume
bK-26.1	railing (counted in segments)	12	metal	3.6m2	/	43.5m2	/
bK-26.2	window	4608	colored glas	0.73m2	0.01m3	33683.8m2	33.6m3
bK-26.3	wire mesh	34	steel	6.65m2	/	226.1m2	/

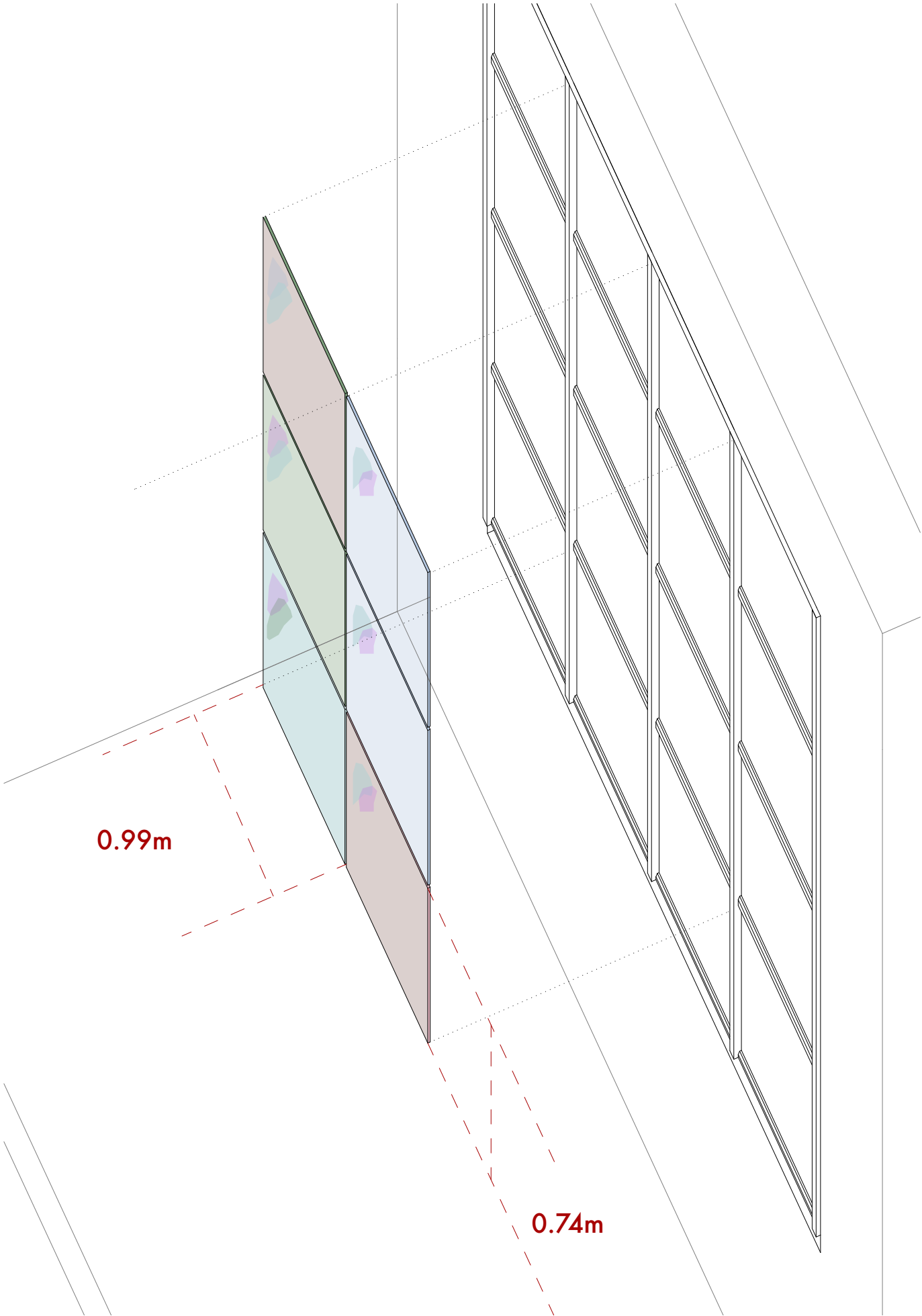
## components: value

Σ	component	elements		materials			value points	
	production process (up to 3 •)		production process (up to 4 •)		material quality and abrasion (up to 6 •)			
	<ul style="list-style-type: none"><li>• design of a component</li><li>• assembling the component</li><li>• installation of the component</li></ul>		<ul style="list-style-type: none"><li>• mining of raw materials</li><li>• processing into composit material</li><li>• design of elements</li><li>• production of elements</li></ul>		<ul style="list-style-type: none"><li>• low</li><li>•• med.</li><li>••• high</li></ul>	<ul style="list-style-type: none"><li>• high</li><li>•• med.</li><li>••• low</li></ul>		
bK-26.1	railing	• • •	1. profile 2. tubular posts and rods with base	• • • • • •	1. steel 2. steel	• •	• •	13
bK-26.2	window	• • •	1. window pane 2. window frame	• • • •	1. single glass 2. metal frame	• ••	• •	12
bK-26.3	wire mesh	• •	1. tubular posts 2. wire	• • • •	1. galvanized steel 2. galvanized steel	• • • •	• • • •	14

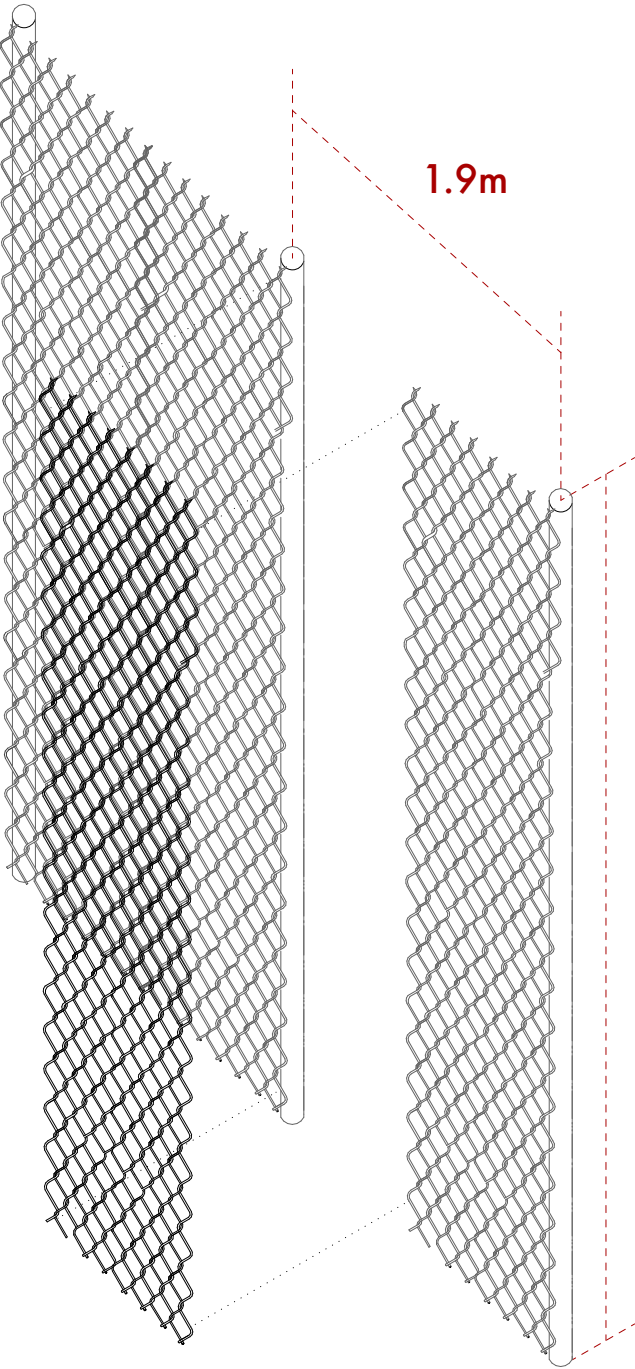
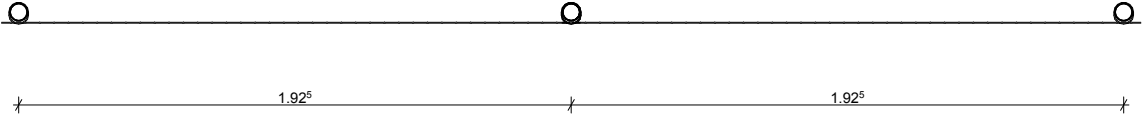
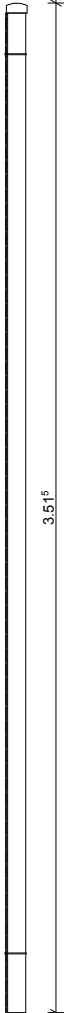
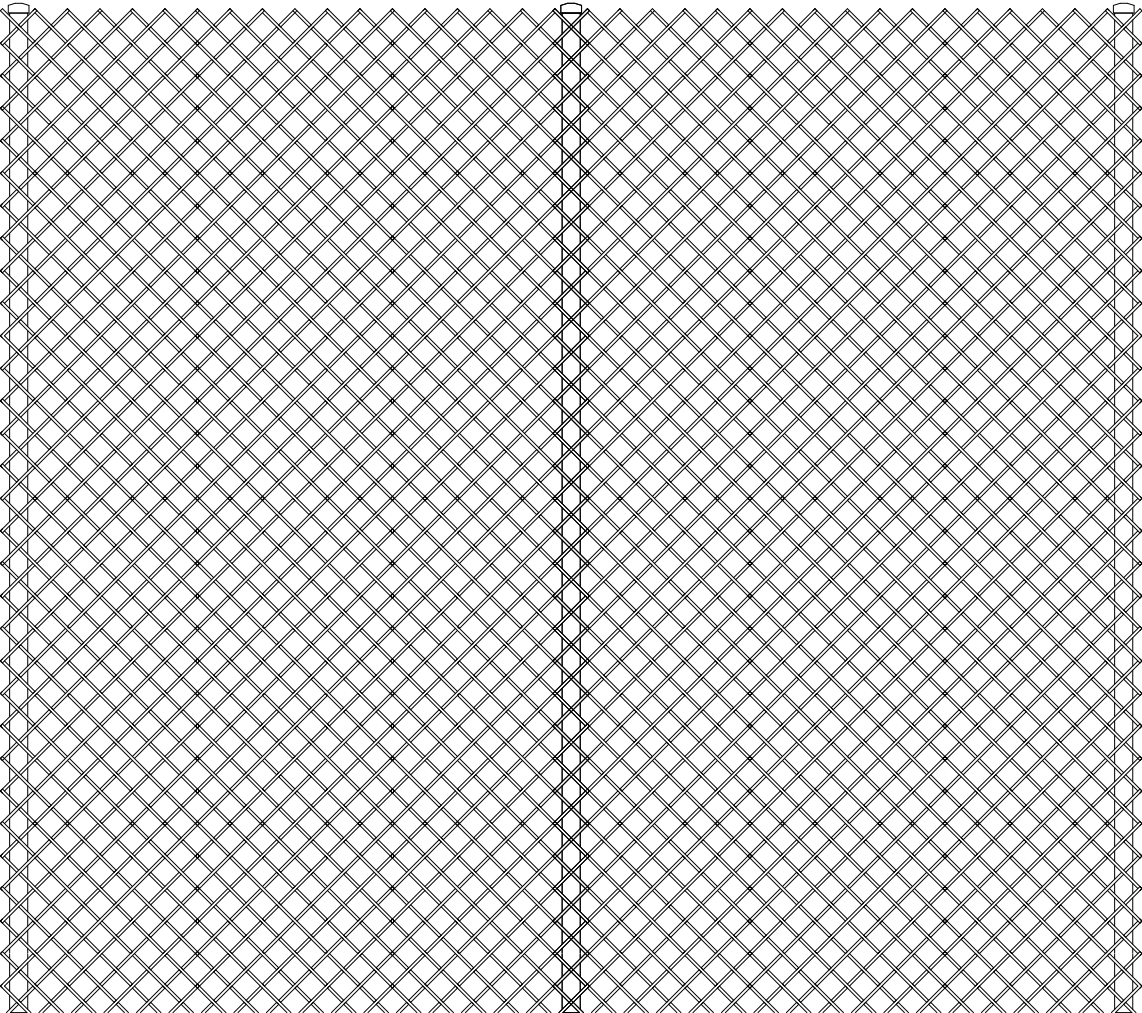




0 0.2 0.5m



0 0.2 0.5m



1.9m

3.5m